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RECENT AMERICAN CLASSIFICATIONS OF MENTAL DISEASES.*

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The American Medico-Psychological Association has now adopted a classification of mental diseases which appears in general to be a highly satisfactory classification. This new standard American classification has been drawn up with the interests of district state hospitals largely in mind and is in some respects not suitable to the somewhat broader material confronted by the general practitioners and by the staffs of psychopathic hospitals. It is with the interests of general practice and of psychopathic hospital practice that I have been in recent years busy in the matter of early diagnosis. Accordingly, it was with great interest that the classification presented by the highly competent committee of the association was greeted by those of us who had to do with the task of diagnosing the "incipient, acute and curable" group of mental diseases flowing through the psychopathic hospital wards and out-patient departments. It was with the last two groups (21 and 22 of the American Medico-Psychological Association's classification) that psychopathic hospitals obviously had most to do, namely, with the so-called "undiagnosed psychoses" and the so-called "not insane." Whereas the Association's committee evidently regards the group of "undiagnosed psychoses" as a comparatively small one and specifically states that the "not insane" group should receive the occasional cases which, after investigation and observation, give no evidence of having had a psychosis, it is clear that psychopathic hospitals and out-patient departments will always find at least a minority of their cases in one or other of these groups of "undiagnosed

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psychoses" or "not insane." It appears likely therefore that future developments in mental hygiene with the establishment of psychopathic hospital facilities attracting great numbers of "incipient, acute and curable cases" into the psychiatric circle, will require some corresponding developments in the American Medico-Psychological Association's classification. The American Medico-Psychological Association's classification appears in short to be one dealing with the insane in the committable sense and not with psychopaths in the broader sense of modern mental hygiene. The committee terms this last group, namely, the "not insane," a group in which it is determined that no psychosis existed. It is doubtful whether the association committee should use the term psychosis in this narrow sense of a disease suitable for care in hospitals for the insane. It ought to be a task of this continuing committee, at least in the writer's opinion, to arrive at a decision whether the term psychosis should be used as equivalent to medicolegal insanity (in the sense of at least potentially committable "certifiable") or whether the term psychosis should be used in a broader sense to cover cases of mental disease which are not even potentially committable. In our local Boston Psychopathic Hospital practice, we have fallen into the habit of specifying, in all instances where there can be the slightest doubt, whether we are dealing with,

A, a psychosis, committable,

B, a psychosis, not committable, or

C, a psychopathic condition too ill defined to warrant the term psychosis.

And beyond these psychopaths might be

D, a group of eccentrics or anomalous persons who only concern the psychiatrist remotely, amongst whom might be found, *e. g.*, many of the so-called defective delinquents. Whatever the decision in this matter, it is clear that the vistas of diagnosis opened out by psychopathic hospital practice are far deeper than those of district state hospital practice in its usual sense.

Of course, the practising neurologist, who was in effect all the time a kind of psychiatrist, had always to deal with this penumbra of psychiatric diagnosis, and practical alienists in the medicolegal sense of that term had in point of fact to be the most delicate observers in the world of just these nuances of psychiatry.

But one should not find so small a fly in the ointment of the new American Medico-Psychological Association's classification, and it would appear to me that in the course of a very few years, especially with the stimulation afforded by the neuropsychiatric problems of the war material, the American Medico-Psychological Association's classification will be whipped into a still more generally applicable shape.

Our own problem in the field of diagnosis of the "incipient, acute and curable" group was not so much the nature and conditions of a classification as the method by which one should most speedily and accurately arrive at a diagnosis. It was not so much the nature and number of the entities in question as the process-types of their diagnosis that formed the new task of the Psychopathic Hospital. Again, let me insist that by calling the task new, I do not mean to say that it is not in one sense a problem as old as the hills, confronting every general practitioner, every consulting neurologist and every specializing medicolegal alienist; but the problem is new in the sense that hardly any institutions in America, except the Psychopathic Ward of the University of Michigan at Ann Arbor, and the Psychopathic Hospital in Boston, had been so equipped as to confront a large mass of material with all modern diagnostic weapons. For, despite the relative accuracy and practical moment of the results attained in institutions like the Bellevue Hospital Psychopathic Ward and the Psychopathic Ward in Cook County, Illinois, it cannot be said that these institutions had been supplied by the local governmental authorities with enough means and large enough staffs to do justice to modern methods.

Again, let me insist that I do not decry the efforts of local governments in establishing such institutions as the Bellevue and Cook County institutions, which in their practical way may accomplish as much as or even more than institutions which are theoretically and scientifically better off. Nor can I think of any means of sharpening psychiatric diagnosis better than a four or six months' course in contact with the mobile and polychromatic material passing through the New York and Chicago institutions mentioned. However, in the interests of mental hygiene it seems that the local governmental authorities should strengthen such institutions as these by enlarging their staffs, greatly developing

their laboratories, and immensely extending their social services. The tasks confronted by the four institutions mentioned, two of which have been properly equipped from the scientific point of view and two of which have served their practical turns even better than could have been expected, are tasks of diagnosis that any attempt at classification must take into account.

Stimulated by this problem in mental hygiene, a problem really of the greatest magnitude for almost everybody's future, and stimulated by the progress made by the American Medico-Psychological Association's committee on statistics, I examined recent American text-books of psychiatry with the aim of learning how many entities were considered by competent psychiatrists really to exist. I had blocked out a paper dealing with these classifications, anticipating most interesting divergences of opinion and hoping to learn something from the mutual critique which the various classifications would afford. There had indeed been a certain healthy disputatiousness in recent American psychiatry, or at least an interesting appearance of acrimony, which led one to hope much from a study of these supposed divergences of opinion. In point of fact, I found extraordinarily few genuine divergences. There were, to be sure, divergences of nomenclature and there are many amongst us who hardly distinguish between nomenclature and classification; but setting on one side nomenclatural questions, the actual and fundamental differences which can be found, *e. g.*, in a comparison of a text-book by Dercum with a text-book by White, are singularly few. I was somewhat disappointed to find so little actual theoretical controversy in American psychiatry. The only sign of healthy competition in hypotheses is to be found in the Freudian discussions which are certainly acrimonious enough, little as they frequently attack the central and underlying problems at stake. But, aside from the small Freudian unpleasantnesses, there is singularly little viable controversy over psychiatric theory in recent American work. Accordingly, I gave over my projected analysis of the supposed divergences in American theoretical psychiatry as shown in the favorite text-books (amongst which may be mentioned DeFursac in Rosanoff's latest modified edition; Dercum; Diefendorf; Knapp in Strümpell's "Practice of Medicine"; Peterson in Church and Peterson's Text-book; and White), and

can only report the extraordinary unanimity above mentioned, a unanimity which was doubtless at bottom the reason why the Medico-Psychological Association could so readily bring about an adoption of its classification. Whatever anybody's doubts as to the details thereof, the classification could certainly be practically used. I hope only, from the point of view of general developments in mental hygiene, that the committee will be a truly standing and dynamic committee, ready to consider year by year modifications which may be proposed, to the end that possibly at the expiration of either a hemi-decade or a decade, the classification may be revamped.

But how shall any classification of mental diseases be employed? How shall we approach the classifying of mental diseases, as we, for example, approach the classification of an unknown plant or animal? What are the processes employed in actual diagnosis aside from the methods of collecting data and observation? This is no merely academic task. It has been the daily task of the Psychopathic Hospital in Boston during the last six years and in the practical handling of over 10,000 cases, a large minority of which are decidedly doubtful as to their place in any psychiatric nosology. This task must also be very prominent, as indeed the reports of these institutions show, in such hospitals as the Psychopathic Ward at Ann Arbor, the Bellevue Psychopathic Ward, and perhaps to a less extent in the Psychopathic Hospital in Cook County, Illinois. After the youthful aspirant to honors gets over his initial confusion at variations in nomenclature and becomes cognizant of the chief constituents of psychiatric nosology by their actualities if not by their names, how shall he consolidate his progress and generalize his diagnostic method? It is somewhat in psychiatric diagnosis as in the learning of an intellectual game, such, for example, as chess: the early difficulties as to nomenclatural variations correspond to the initial difficulties in learning the names and movements of chess men, but this superficial and early difficulty in chess is speedily replaced with difficulties of an entirely different logical nature.

The chess enthusiast now reads chess books, goes over game variations, studies openings and endings, and tries to become an accomplished chess player through transfer of book knowledge to his practice. In this effort he naturally, as in all other depart-

ments of science and art, always fails. He then acquires through practice, with continual reference to books or authorities, that measure of true chess knowledge which he is able to attain. He now becomes equipped with certain chess fundamentals, not too easy to reduce to propositions, although some endeavor has recently been made to accomplish this even in that most complex of all games—chess.

The medical problem of diagnosis in mental disease resembles more closely the process of classification of plants and animals than it does the choice of lines of play in chess. Probably in a later stage of psychiatric science, we shall find, in the choice of therapeutic terms and in their pragmatic modifications, much more of an analogue to the difficulties of chess.

But, it may be asked, how is it possible to reduce the classification of mental diseases to such simplicities as now run in botany or zoology? One could not hope for quite the definiteness which prevails in the taxonomies of biology when one has to deal with any form of disease, let alone the mental diseases. Still, after all, the distinction between genera and species is a distinction which is not at all confined to botany and zoology, but is a most ancient logical distinction, found at least as early as the Greek logicians. Heads and sub-heads have been known to all thinking persons since thinking persons arrived on the scene.

Out of purely practical considerations, there was developed from the Psychopathic Hospital experiences what I termed a "Key to the Practical Grouping of Mental Diseases," published in the *Journal of Nervous and Mental Disease* for January, 1918, in which mental diseases were divided roughly into 11 great groups, corresponding somewhat accurately to the so-called botanical or zoological "orders." Above I mentioned the fact that some persons do not readily distinguish between nomenclature and classification and consider that, where there are many nomenclatural divergences, there are also many divergences in classification. I said that facts proved, on analysis of leading American psychiatric text-books, that despite sundry differences in nomenclature, their classifications betrayed an extraordinarily single mind on the part of American psychiatrists. Now I find that other persons, who shall also be nameless, find it difficult to distinguish not only between nomenclature and classification, but

between classification and a key to a classification or the method by which a classification is used.

Conceding that the American Medico-Psychological Association's classification, adopted as it has been by a great number of American institutions and by the United States Government for war purposes, is a reasonably good classification and aware that its constituent elements fairly well correspond with what all American psychiatrists fundamentally agree upon, the problem still remains, how shall this classification be used; how shall we arrive at the result that a given case falls into one of the 22 groups listed by the Association's committee?

Again I find that, just as some persons fail to distinguish nomenclature and classification and others fail to distinguish classification and key, so still others fail to distinguish between the process of diagnosis and the process of collecting facts upon which a diagnosis is grounded. I find no special divergences of opinion on the part of American psychiatrists as to the methods of observation; that is, the art of collecting data of observation. To be sure, there is one eminent neurologist who triumphantly proclaims that he knows really no one or hardly any one who can take a knee-jerk; but this kind of claim of superiority in the art of observation is hardly to be endured save by some process of cleverly adapted ridicule. There is really no important split in the psychiatric world upon the methods of collecting data. Even the perennially diurnal methods of collecting a clinical history, recommended by the Freudians, do not logically differ from the scandalously inadequate cheese-boring methods adopted by the unregenerate psychiatrist of every-day life.

Suppose then that,

A, nomenclatural divergences be for the moment forgotten; suppose that,

B, some classification, *e. g.*, the A. M.-P. A.'s classification, be accepted as containing all the constituents wanted for statistical tables; and suppose that,

C, the collectors of data are duly making proper observations according to modern standards, there will still remain the question of the process of logically arriving at a diagnosis; that is, a diagnosis of the entity to which the case may be supposed to belong.

I find, however, that there are some persons who choose to deny that there are any psychotic entities and presumably that there are any pathological entities whatever. The term entity for these persons appears to have some bristling dread arcanum about it, having a smack of metaphysics; inasmuch as every individual is, through the fact of his being an individual, so very different from every other individual, how can we compress him into an entity? Shall we not do him therapeutically an enormous injustice by subsuming him under any head whatever? Here, in my opinion, is an extraordinary overdevelopment in application of the principle of identity of indiscernibles. Was it not Leibnitz who proved or proclaimed that no two leaves of grass were identical with one another? By the same token, should we not all agree that no two persons and, *à fortiori*, no two psychopaths are at all alike? And does not this assertion mean that we cannot put any two psychopaths into one entity? This is not the place in which to discuss the inner spirit of the principle of the identity of indiscernibles; but I confess that those persons who overemphasize the principle of individualization are to my mind just as little at ease in the logical world as those who are forever generalizing. Without further argument, therefore, I want to say that I have no objection to any entity whatever, provided there is a good argument in the general psychiatric mind for its existence.

The argument in my brief paper entitled "A Key to the Practical Grouping of Mental Diseases" was an argument for an application of the original principle of order, a principle which has been greatly developed in modern logic. I have put a few historical remarks upon this matter in a paper to be shortly published in the *Journal of Clinical and Laboratory Medicine*, entitled "*Diagnosis per Exclusionem in Ordine*: General and Psychiatric Remarks." In this paper I have called attention to the late Professor Royce's remarks upon the principle of order in modern logic and have given some reasons why it seems to me an important thing for medical diagnosis to follow this modern line of logical developments. It will be wise, however, to emphasize in this inductive age that the considerations in the paper called "A Key to the Practical Grouping of Mental Diseases" were born in practice and not in books of logic. The fact is, that in mental diseases there are few or no reliable indicator symptoms.

I have tried to develop this point somewhat more in detail in a paper "On the Genera in Certain Great Groups or Orders of Mental Diseases" presented before the Neurological Association and to be shortly published. The fact that there are practically no indicator symptoms of particular mental diseases led me to be able to say to the neurologists the following: "Let a young diagnostician of the dogmatic or slightly paranoid type get the initial idea that a case belongs in the dementia præcox group, he will be able to defend his thesis against all comers by the use of symptom lists founded upon the very best text-books. In fact, the better the text-book, the easier for the young tyro to carry his point—for the time being."

In short, if we attempted to use in the field of psychiatric diagnosis any such scheme as that of the "presenting symptoms" of Richard Cabot's formulation, we should land in quagmires of classification. For any presenting symptom, *e. g.*, mania, depression, grandiosity, delusion, even hallucination, would suggest any one of a great quantity of mental diseases. Some small tip or "hunch" would then suggest that the said symptom belonged in group X. Upon reference to books of authorities, said symptom would be unfailingly found in group X. A great number of collateral symptoms would also be found therein. To be sure, the systematist might have given some little idea of the statistical frequency of the given symptom; but he would be careful to say, for example, that a depression is occasionally found in dementia præcox and that auditory hallucinations are occasionally found in manic-depressive psychoses. The tyro bent upon making a diagnosis of one or other of these diseases would hardly get the statistical nuances of the entire situation.

Without going into this matter of the lack of indicator symptoms in the field of mental diseases, I think it will be conceded by all that a young diagnostician (or even an academic old one) is very often able to press the phenomena of practically any case into any one of half a dozen groups. Hence the obscurity and the delights of psychiatric diagnosis!

Where there are no indicator symptoms, it seems desirable to examine the entire logical material in an orderly way, confronting in sequence the various possibilities. This might be done by lot or in some other arbitrary fashion, as, for example, by an

alphabetical method, or do it by a mere casting up of lots. For example, this method could be applied to the A. M.-P. A.'s classification as follows:

1. Is this a case of traumatic psychosis?
2. Is it a case of senile psychosis?
3. Is it a case of psychosis with cerebral arteriosclerosis?
4. Is it a case of general paresis?
5. Is it a case of psychosis with cerebral syphilis?
6. Is it a case of the psychosis of Huntington's chorea?
7. Is it a case of psychosis with brain tumor?
8. Is it a psychosis with other brain or nervous disease?
9. Is it a case of alcoholic psychosis?
10. Is it a case of psychosis due to drugs and other exogenous toxins?
11. Is it a case of psychosis with pellagra?
12. Is it a case of psychosis with other somatic disease?
13. Is it a case of manic-depressive psychosis?
14. Is it a case of involution melancholia?
15. Is it a case of dementia præcox?
16. Is it a case of paranoia or paranoic conditions?
17. Is it a case of epileptic psychosis?
18. Is it a case of psychoneurosis or neurosis?
19. Is it a case of psychosis with constitutional psychopathic inferiority?
20. Is it a case of psychosis with mental deficiency?
21. Is it a case of psychosis which we are unable to diagnosticate in any one of the previous 20 forms?
22. Is it a case which, on investigation and observation, gives no evidence of having had a psychosis and is, in the nomenclature of the A. M.-P. A.'s classification, "not insane"?

It is probable that the fatigue point would be reached early in this method of couching the questions of a diagnosis in sequence. It would in fact appear to the writer that the A. M.-P. A.'s grouping is a grouping based upon a deductive order derived from other considerations than those of diagnosis. The grouping is probably based upon certain notions of etiology. Psychoses with destruction of brain tissue appear to be placed early in the list, and psychoses in which the brains are normal or relatively normal are, with a few exceptions, placed late in the list.

The order is one affected by numerous German text-books and is the opposite of what most French text-books affect. For the latter are apt to place their equivalents of manic-depressive psychoses, dementia præcox and the like at the outset of their discussions. Deductively, it would hardly matter which order one adopted in a reference book. For, having by some means obtained a diagnostic clue to the fact that a disease was probably alcoholic or pellagrous or paranoic, one might then refer by index or table of contents to the reference book, in which would be given the differential signs for the disease in question. This would be the method adopted for general medicine in, for instance, Herbert French's "Index of Differential Diagnosis." It is in some sense the method adopted by Cabot in his "Differential Diagnosis."

It does not appear to the writer that this attempt at an etiological ordering has proved especially successful. It does not appear to him that either the German or French method can be said to be particularly superior to the other. It would, on the other hand, appear that a pragmatic ordering in the interests of diagnosis would be preferable to a theoretical ordering in the interests of etiology. To be sure, where etiology has been established and particularly where the morbid agent is single and definable, it is true that the theoretical and the pragmatic groupings would prove identical. But in how many mental diseases can we say that the etiology is established? In how many is it probable that a single morbid agent will be proved to be ample to bring the psychosis about?

In short, I feel that etiological classifications may have their place and that we are gradually approaching a unanimity in this most difficult matter. But from the standpoint of pragmatic diagnosis, that is to say, from the standpoint of choosing some therapeutic plan to follow in a given case, I think that the A. M.-P. A.'s order, to say nothing of the Kraepelinian order which it roughly follows, or any other ordering, *e. g.*, of French text-books, has little to recommend it from the standpoint of practical diagnosis. Shall any one say that we ought to begin to consider whether a psychosis is traumatic, senile, arteriosclerotic, before we consider that it is syphilitic, choreic, neoplastic, etc.?

However, the main objection to the A. M.-P. A.'s grouping, from the practical standpoint, is that the number of groups is

too large to bear practically in mind, at least for the diagnostic tyro. It would seem desirable to throw these groups still further together, if we are not to transgress the fatigue point for the inexperienced diagnostician. So far as the expert diagnostician goes, he truly may not require any special ordering at all, for the expert may on inspection catch up enough tips and "hunches" by which to arrive forthwith at something like the actual diagnosis. But we are not here considering what the process type of diagnosis on the part of the expert is. We are, on the other hand, trying to choose an order in which to consider the entities of psychiatric nosology for the practical purpose of arriving at the entity whose choice will aid the patient as to treatment.

Da Costa used to remark that the process of diagnosis by exclusion was a tedious one. The remark appears to have been founded upon the idea that one might have to exclude all the nosological entities in the text-books one by one in order to arrive at a proper diagnosis by exclusion. Da Costa's text-book was one of the earliest of the modern single volume text-books in medicine that have so dominated medical schools and consulting room practice. The processes of diagnosis which the Philadelphia school and their followers have advocated and used, no doubt with great practical success, have been processes of clinical type-matching rather than processes of diagnosis by exclusion. I went into this matter somewhat *in extenso* in the paper called "*Diagnosis per Exclusionem in Ordine*," to which I will refer an interested reader. In point of fact, diagnosis by exclusion does not need to be tedious, if only the diagnostician is able to unite the different entities in his diagnostic field into a small number of groups characterized by particular signs and symptoms, or groups of such signs and symptoms.

How then might the diagnostician who should want to apply the logical principle of order in his diagnosis use such a classification as the A. M.-P. A.'s classification? Omitting to consider nomenclatural differences and thinking of the observational data in hand which he may desire to use, how shall the diagnostician proceed to choose one of the 22 groups of the A. M.-P. A.'s classification, or one of the 65 (more or less) clinical types mentioned under 11 of the 22 groups? (11 of the 22 groups of the A. M.-P. A.'s classification were subordinate clinical types; for

example, group 4, "General Paresis," is not supplied with special clinical types to be used in general statistics, nor is group 5, entitled "Psychoses with Cerebral Syphilis," supplied with special clinical types, although the plural form "psychoses" indicates that there are probably several such types. Accordingly it would be safe to say that we deal with far more rather than far less than 65 clinical types in the A. M.-P. A.'s classification of mental diseases.)

How then might we order these groups and entities? I have proposed in the paper "A Key to the Practical Grouping of Mental Diseases" the following list, in what seems to me to be the most practical diagnostic order of consideration. (Let me here insist that this is *not an order suggested for the collection of data*, but an order for the consideration of all the data after they have been collected in due amount for diagnosis: any attempt to proceed to diagnosis before a due amount of data is in hand is bound to be dangerous or at all events of transitory value.)

MENTAL DISEASE GROUPS (ORDERS).

- I. Syphilitic Syphilopsychoses.
- II. Feeble-minded Hypophrenoses.
- III. Epileptic Epileptoses.
- IV. Alcoholic, drug, poison..... Pharmacopsychoses.
- V. Focal brain ("organic," arterio-sclerotic) Encephalopsychoses.
- VI. Bodily disease ("symptomatic")... Somatopsychoses.
- VII. Senescent, senile Geriopsychoses.
- VIII. Dementia præcox, paraphrenic..... Schizophrenoses.
- IX. Manic-depressive, cyclothymic..... Cyclothymoses.
- X. Hysteric, psych-, neurasthenic..... Psychoneuroses.
- XI. Psychopathic, paranoiac, *et al.*..... Psychopathoses.

As for group I, the Syphilopsychoses, it will be noted that, for practical purposes, I would wish to group the A. M.-P. A.'s groups 4—General Paresis, 5—Psychoses with Cerebral Syphilis, and 8—Psychoses with Tabes, together simply because in early phases of the development of syphilitic psychoses, a grave damage may be done to the patient if the diagnosis "general paresis" is affixed simply because the patient appears to have some features that correspond with the book authorities on early paresis. It

seems to me that all experience indicates that no combination of clinical and laboratory signs will permit us to make a diagnosis between diseases of groups 4 and 5 without long study and the passage of years. Of course I would not mean to exclude numerous striking exceptions in which an immediate diagnosis of general paresis would be warrantable; but these striking exceptions of diagnosis virtually by inspection have nothing to do with the stock difficulties of practical diagnosis. Here, then, is a good instance in which for practical purposes two or more of the groups and types of disease mentioned in the A. M.-P. A.'s classification might be fused into a single pragmatic group, having important signs or symptoms in common. I do not need here to argue further for placing Syphilopsychoses first in the list and will merely refer to the case book on "Neurosyphilis" which Solomon and the writer issued in 1917 along these general lines.

As for what I have called the Hypophrenoses, or in practice, the hypophrenias, let me here set at rest any question of nomenclature. (I have argued somewhat in detail for the value of the term hypophrenia in a brief paper called "Hypophrenia and Hypophrenics: Suggestions in the Nomenclature of the Feeble-mindednesses," which may shortly appear.) I would here lump the A. M.-P. A.'s group 20—Psychoses with Mental Deficiency, and 22e—the Not Insane, sub-group—Mental Deficiency without Psychosis, simply because the slightest evidence of any kind or degree of mental deficiency appears to me to have extraordinary importance. The plane of division between mental deficiency of a committable kind and mental deficiency of a non-committable kind is not a particularly important plane of distinction in the first task of diagnosis. Consider, for example, how little importance attaches to this matter in the field of delinquency, at least in our early confrontation of criminal phenomena.

Just as the Syphilopsychoses were placed first on account of the relative diagnostic reliability of the present-day tests, so the feeble-mindednesses are placed second, because of the relative reliability of modern mental tests and estimates of mental capacity, based upon observations of educability and functional capacity in schools or other standard environments. In practice hardly a case gets on nowadays without the performance of mental tests in all cases lucid enough to warrant them.

The Epileptic Psychoses correspond with the A. M.-P. A.'s group 17—Epileptic Psychoses, and 22—the Not Insane group of epilepsy without psychosis. Again the A. M.-P. A.'s distinction seems to be founded upon the question of committability and not upon the very possibly more important therapeutic lines of distinction. Epilepsy is placed early in this pragmatic ordering of groups, because in practice it appears to me that epilepsy is so often forgotten and also because the clinical history of epilepsy or epileptoid states is often so relatively good compared with the clinical history of sundry other symptoms given us by lay witnesses.

Again, I have lumped in my pragmatic ordering the alcoholic, drug and poison psychoses, because the question as to their occurrence can be lodged practically in a single sentence. The A. M.-P. A.'s groups 9 and 10 roughly correspond with what I have termed the Pharmacopsychoses. (Nomenclature is not here in question, but it would appear that the Greek term in the first half of the word "Pharmacopsychoses" corresponds pretty exactly with both the alcohol and drugs involved in this group and the poisons there specified.)

The next fusion process in group V, which I have termed the Encephalopsychoses, may seem a good deal more questionable to the practical worker, but I consider that a group which takes into account those neurological signs which we think of under

A, signs of heightened intracranial pressure, and

B, signs of reflex asymmetry,

and the like, is a practical grouping. This group is in fact the neurologist's group. The technique of determining the focal brain lesion group of psychoses is the technique of determining the existence of focal brain lesions which are partly responsible for or are indicators of the cause of the mental symptoms, in a given case. I here lump the A. M.-P. A.'s group 1—Traumatic Psychoses, group 3—Psychoses with Cerebral Arteriosclerosis, group 6—Psychoses with Huntington's Chorea, group 7—Psychoses with Brain Tumor, and the larger part of group 8—Psychoses with other Brain or Nervous Disease (excluding Tabes).

It seems to me that the practical decision whether a case belongs in any one of these five A. M.-P. A.'s groups depends upon the neurologist's clinical technique and largely upon whether the

neurologist can find signs of heightened intracranial pressure or signs of reflex disorder, asymmetry, and the like. It seems to me that the process of getting at the question whether such an encephalopsychosis is traumatic, arteriosclerotic, neoplastic, etc., is a question logically subsequent to the decision that the case belongs in the group as a whole. It may be inquired whether general paresis and cerebral syphilitic psychoses ought not to be classified as Encephalopsychoses. It is true that from one etiological point of view, they might well be so classified; but we are not here attempting an etiological classification. We are trying to make a pragmatic classification that shall be of practical diagnostic and therapeutic value. There can be no question that from the standpoint of therapeutics, it is decidedly important to eliminate logically the question of syphilis before we come to deal with other forms of encephalic disease producing psychosis. The same principle of order in diagnosis may now be applied of course to the sub-groups or genera in the Encephalopsychoses, and some arguments in this direction have been given in the paper above mentioned "Genera in Certain Great Groups or Orders of Mental Disease." But to proceed to the more general ordering. Having gotten rid of the syphilitic mental diseases, the almost (in some form) omnipresent question of feeble-mindedness, the hardly less frequent question of some epileptic or epileptoid condition or equivalent, having disposed of the alcohol, drug and poison question, having applied the neurologist's technique and eliminated such matters as heightened intracranial pressure and reflex asymmetry, in what order shall we consider the remainder of psychiatric nosology?

Practically, I feel that the next question is that which the internist might best solve, and for this purpose I would group together, A. M.-P. A.'s group 12—Psychoses with other Somatic Disease, with its seven sub-groups, and group 11—Psychoses with Pellagra. I have given some arguments for the order in which these sub-heads under the Symptomatic Psychoses, group VI, might well be considered, in the paper above mentioned.

Having now put out of the way the internist's contribution, how shall we attack the numerically smaller, but logically more difficult residuum? Practically, I think at this point one should try to eliminate all the involutional, presenile, and senile questions. As

for involution-melancholia itself, it is possibly of little moment whether it be classified under the presenile and senile group or under the manic-depressive group. We shall get the entity out in any event by our orderly approach. With some misgivings, I have, however, preferred to place the involution-melancholia group below with the Manic-Depressive Psychoses, leaving the other presenile psychoses to be grouped with the senile ones. It is of special value in this method of attack that we have pulled so far apart the arteriosclerotic conditions from the senile ones.

We now approach the most difficult questions. I would practically place the schizophrenic question ahead of the cyclothymic question, because it seems to me that dementia præcox symptoms blanket manic-depressive symptoms from a diagnostic standpoint. Otherwise expressed, is it not in general true that practically any psychopath may show at times the characteristic mania or depression of the cyclothymic, but is it at all so true that characteristic dementia præcox symptoms appear in every form of mental disease? That schizophrenic symptoms do so appear, in the midst of, *e. g.*, manic-depressive psychosis, at least occasionally and as a rule singly, cannot be denied. But that any characteristic constellation of schizophrenic symptoms appears in any other disease than dementia præcox must be regarded as very doubtful.

Having then eliminated schizophrenia, that is, A. M.-P. A.'s group 15, and a part possibly of group 16, namely the part called "paranoic conditions" I would then proceed to the cyclothymic conditions which appear in the A. M.-P. A.'s classification as group 13—Manic Depressive Psychoses, and group 14—Involution Melancholia.

It seems to me that in practical discussion in early phases of mental disease, it is very salutary to fuse the question of Manic-Depressive Psychosis and Involution Melancholia, so that the diagnostic disputant might present to his audience all the phenomena that he thinks are cyclothymic at the outset.

We have now accounted for all the A. M.-P. A.'s groups except a portion of 16, 18, 19, and 21 and the larger part of 22. Having eliminated the cyclothymic states, I would proceed to eliminate the Psychoneuroses, group 18 of the A. M.-P. A.'s classification. Then, for my part, I cannot see any gospel for the orderly diagnosis of the remainder of the so-called entities, which appear to

me to be of a very nondescript and variegated description. For example, paranoia seems to me not to have been proved to be of schizophrenic nature, and, although some forms of it appear to resemble chronic mania that some might press into the cyclothymic division, on the whole would it not be wiser to relegate paranoia to an extremely doubtful, special and unresolved group of conditions? As with 16—Paranoia, so with 19, the A. M.-P. A.'s group of Psychoses with Constitutional Psychopathic Inferiority, this phrase means much and little. It has successfully borne an enormous weight in the matter of exclusion of certain immigrants. It is doubtless of great value in the matter of recruits. It is an ore for future psychiatric mining; but for my part I would not like to make the diagnosis until I had excluded all the previous ten great groups that I have just mentioned.

Of course, the undiagnosed psychoses, the A. M.-P. A.'s group 21, also belong in my chosen "ragbag" group 11, and there might appear 22d—Constitutional Psychopathic Inferiority without Psychosis, and 22f "others to be specified."

From the general results of this analysis, would it not be possible to say that the A. M.-P. A.'s classification, relatively successful as it is from the standpoint of a reference table for statistical purposes, and relatively successful as it may be in representing a reputable German etiological ordering, can be used with a certain readjustment in a practical orderly manner for the purpose of pragmatic diagnosis, having in mind special treatment and management as its aim? In short, may we not use this classification of the A. M.-P. A. like many others, by throwing its groups and subordinate clinical types into pragmatic groups arranged in key form, following the practical standards of, *e. g.*, Gray's "Botany"?

We thus arrive at the following general considerations concerning the recent American classifications in psychiatry:

1. There is an extraordinary unanimity on the part of American psychiatrists as to the constituents of psychiatric nosology and this despite a number of nomenclatural divergences.

2. The classification proposed by the American Medico-Psychological Association and adopted by the United States Government for practical war work is a suitable reference table for statistical purposes of the major groups and clinical types of mental disease.

3. The classification may be somewhat inadequate for the purpose of general and psychopathic hospital practice, but a slight revamping might resolve this difficulty.

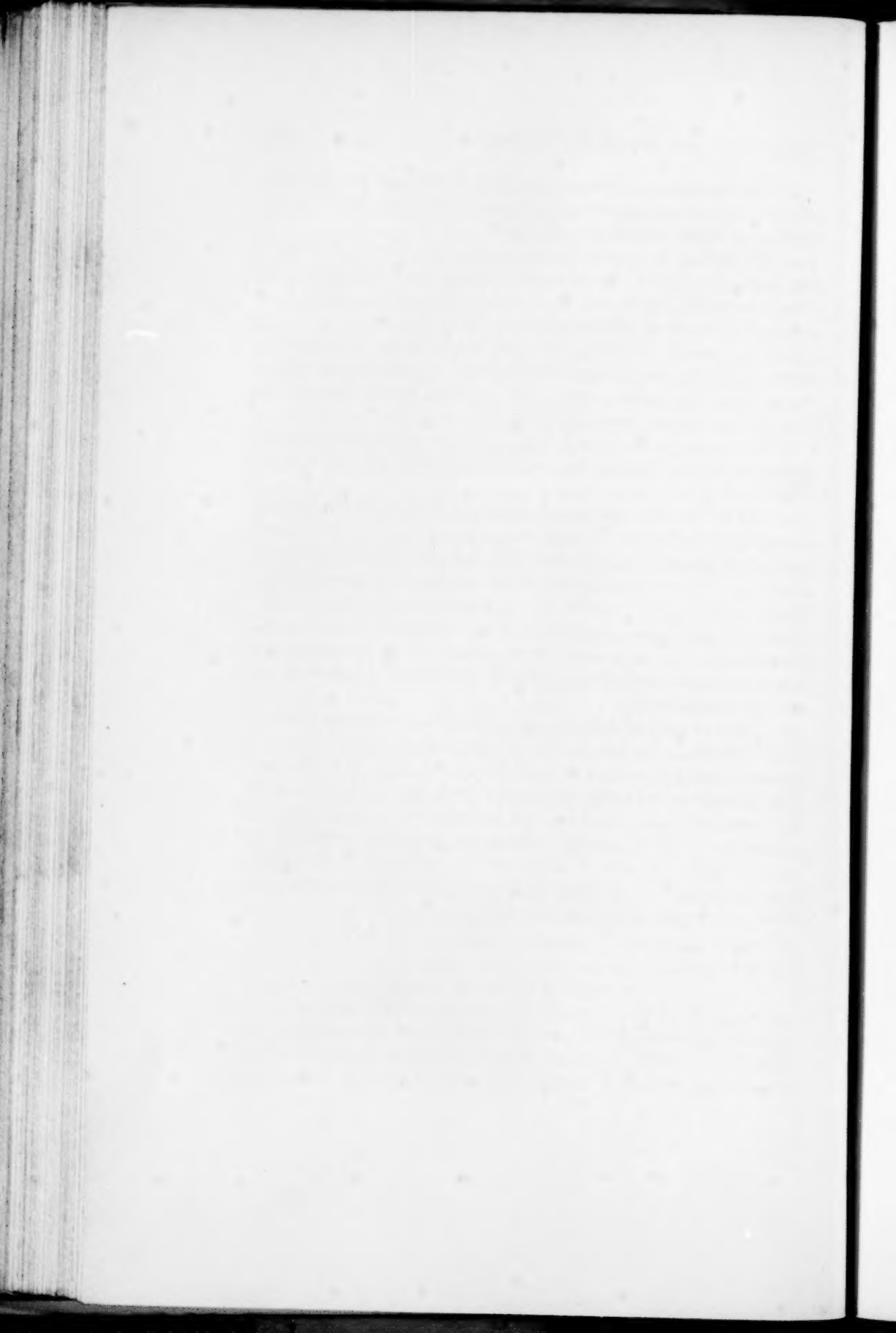
4. The American Medico-Psychological Association's classification appears to follow an etiological ordering borrowed ultimately from reputable German sources, and this etiological ordering is a good one if a certain etiological viewpoint is in mind.

5. The question is raised, Whether it would not be better to order the groups and types of mental disease in a pragmatic rather than a theoretical order, that is, in an order having therapy in mind rather than an order having etiology in mind?

6. The writer proposes such a pragmatic order of certain great groups or orders of mental disease, corresponding with the botanical or zoological orders.

7. The writer finds that the 22 American Medico-Psychological Association's groups might well be compressed for practical purposes of diagnosis into 11 groups. He finds that the clinical types subordinated to the great groups of the American Medico-Psychological Association's classification correspond more or less accurately to the genera of a botanical or zoological classification, and proposes that in practice these sub-groups be considered in order, in general accordance with the principles of botanical or zoological taxonomies.

8. This question of how to use a classification may be defined as the question of a key to the grouping of diseases. The key question is entirely independent of the classification or reference-table of entities and entity groups, and both the key question and the classification-list question are independent of questions of nomenclature and terminology. Moreover, the writer would insist that the logical process of *diagnosis per exclusionem in ordine* here developed has nothing whatever to do with the order in which data can or should be collected.



AN ANALYSIS OF THE ACCURACY OF PSYCHOPATHIC HOSPITAL DIAGNOSES.*

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Studies of the outcome in psychiatric cases are obviously very important, especially where, as is true at the Psychopathic, diagnoses are based upon symptoms and the longitudinal section of the patient's life before admission. Only in a few cases do we have opportunity to see the final outcome and so check the diagnosis ourselves. The Kraepelinian conception of mental disease, to which we attempt to adhere, was largely founded upon a study of the terminus of pathological states. Accordingly, one important zone of psychiatric advance, for us at least, lies in a study of the outcome of the cases we see here.

The best method available to us for doing this is to follow those cases (about 60 per cent of our admissions) which are committed to the state institutions. This gives us information concerning outcome and also gives us an opinion independently formed; often, as can easily be shown, with diagnostic standards quite different from our own.

Accordingly, we have devised a follow-up scheme by which we secure from each institution its diagnosis and a brief note concerning the condition of the patient three months, six months and one year after commitment. Of course, in the organic cases and those already demented when seen by us, one note is usually sufficient unless there be disagreement in diagnosis. But in the active, acute cases, it is best to secure the full series. In this way conflicting diagnoses in the same case are sometimes given by the institution or institutions.

*A contribution from the Psychopathic Hospital, series of 1918. Read at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

Advance in psychiatry can only come, as I have pointed out elsewhere,* if we carefully study the whole patient; make correct symptomatic diagnoses and then check such diagnoses against outcome. Furthermore, the real test of our diagnostic skill lies in applying such a rigorous system of inquiry regarding the further history of our patients. An additional value to such follow-up studies is that they reveal errors in working technique which need modification. They keep the workers keyed up to do the best possible work and tend to establish the habit of careful analysis. Furthermore, they show which groups of cases are most difficult of diagnosis; tend to establish causes for errors; lead to a wider co-operation and understanding between institutions; lead to more uniform standards of diagnoses. The application of uniform standards of diagnoses is really of much greater value than the selection of a uniform statistical grouping for patients.

Two previous studies of Psychopathic Hospital diagnoses have appeared. In 1914 Southard and Stearns⁷ published a report dealing with the accuracy of Psychopathic Hospital Diagnoses in 1913. The study was carried out by following the patients committed from the Psychopathic Hospital to other state institutions and ascertaining the diagnosis of the institution to which the patient was sent. They found that about one case in five got no diagnosis at the Psychopathic, and that of those cases that had received a diagnosis, one in four had the diagnosis altered in the next state hospital. They found that a residuum of about 6 per cent remained unclassified. They considered that the most difficult field of diagnosis was shown to be that of dementia præcox and manic-depressive psychoses, and offered some abstracts of the more interesting individual patients. They were struck by the few changes made in the Psychopathic diagnosis of manic-depressive.

Recently the writer⁸ has published a paper dealing with the accuracy of early diagnoses within the Psychopathic Hospital. This was done by checking the diagnosis in the admission office against the rounds, or staff meeting, or discharge diagnosis in the same patient. Of course this represents the checking of one diagnostic standard against itself and not against another standard, as is obtained when the Psychopathic Hospital diagnosis

is checked against the diagnosis of some other state institution. It is really a study in the accuracy of snap diagnoses in psychiatry, and it was shown that a high percentage of early diagnostic accuracy depends upon accurate observation, careful interpretation and sufficient information.

In this paper, data are presented dealing with the diagnoses in 419 cases committed to some state hospital, after a residence in the Psychopathic Hospital for from a few days to a month or more. The patients forming this group were committed during the period from November 1, 1916, to June 1, 1917, and were

TABLE I.
THE ERRORS SHOWN BY HOSPITALS.
(Omitting Psychopathic unclassified and undiagnosed.)

	Agree.	Disagree.	Total.	Per ct. error.
1. Boston	125	42	167	23.7
2. Worcester	67	17	84	20.2
3. Westboro.	32	14	46	30.4
4. Taunton.....	21	4	25	16.0
5. Danvers.....	22	4	26	15.4
6. Medfield.....	9	4	13	30.7
7. Foxboro.....	2	1	3	....
8. Private.....	1	2	3	....
9. McLean.....	3	2	5	....
10. Northampton...	1	0	1	....
11. Grafton.....	15	0	15	0.0
12. Norfolk.....	1	1	2	....
13. Monson.....	6	0	6	....
Total.....	305	91	396	23.0%

reported on by the other institutions once, twice or three times. All cases with change in diagnosis were reported on at least twice in order to make sure whether the institution would change its diagnosis. So the group has been followed for from a year to a year and a half. I wish here to express our thanks to the superintendents of the various state hospitals who, by their reports, made this study possible.

Of the 419 patients, 23, or 5.5 per cent, received no definite diagnosis at the Psychopathic, *i. e.*, were left "unclassified"; leaving 396 patients receiving a definite diagnosis.

Table I shows for each institution the number of patients sent; the number in which the diagnosis agreed and the number in

which the diagnosis disagreed with the Psychopathic. The table shows that in 91, or 23 per cent, the diagnosis was changed, leaving 305 in which the diagnoses agreed. This figure is very near that found by Southard and Stearns.

In Table II are found by diagnosis and by institution the agreements in diagnosis so that an idea may be had of the type of cases sent to each institution.

TABLE II.
TO SHOW THE AGREEMENTS IN DIAGNOSIS BY HOSPITALS.
(Excluding unclassified.)

	Total.	1. Boston.	2. Worcester.	3. Westboro.	4. Taunton.	5. Danvers.	6. Medfield.	7. Foxboro.	8. Private.	9. McLean.	10. Northampton.	11. Grafton.	12. Norfolk.	13. Monson.
Dementia Præcox	155	55 ¹	39	22	12	12	7	2	1	3 ²	1	1	..	..
Manic-Depressive	42	24	5 ³	5 ³	2	5	..	..	..	..	..	1	..	..
Neurosyphilis	36	11	12	1	..	4	..	..	..	..	..	8	..	..
Ac. Alc. Psy	8	2 ⁴	3 ⁴	..	2	..	..	..	..	..	..	..	1	..
Chr. Alc. Psy	7	5 ⁵	1	..	1	..	..	..	..	..	..	..	..	..
Senile Dementia	14	8	4	2	..	..	..	..	..	..	..	..	..	..
Epilepsy	12	..	1	..	..	..	..	..	..	..	..	5	..	6
Arteriosclerotic	12	7	..	1	2	1	1	..	..	..	..	..	..	..
Korsakow	7	5	1	..	1	..	..	..	..	..	..	..	..	..
Paranoid Condition	3	2	..	..	..	..	1	..	..	..	..	..	..	..
Post Puerperal	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Psychoneurosis	1	..	..	1	..	..	..	..	..	..	..	..	..	..
Not Psychotic	7	5	1	..	1	..	..	..	..	..	..	..	..	..
Total	305	125	67	32	21	22	9	2	1	3	1	15	1	6

¹One case first called manic-depressive, but on second inquiry the diagnosis agrees.

²One case first called presenile dementia, but on second inquiry the diagnosis agrees.

³Two cases first called dementia præcox, but on second inquiry the diagnosis agrees.

⁴One case first called dementia præcox, but on second inquiry the diagnosis agrees.

⁵One case first called dementia præcox, but on second inquiry the diagnosis agrees.

⁶One case first called psychopathic, but on second inquiry the diagnosis agrees.

⁷Four cases first called manic-depressive, and one infection-exhaustion psychosis, all eventually called dementia præcox.

Table III presents all of the data concerning diagnosis in readily accessible form. This shows, for each psychopathic diagnosis, the diagnoses made at the other institutions. The interesting features will be pointed out in the discussion below.

Table IV is a summary in which the results in all psychopathic groups having more than 10 cases are brought together. It will be seen that the error in dementia præcox is low, while the error in manic-depressive is high; this in contrast to the findings of Southard and Stearns. In certain smaller groups the error is

TABLE III.
THE CHANGES IN DIAGNOSIS BETWEEN PSYCHOPATHIC AND STATE HOSPITALS.
The numbers at the tops of the columns correspond to the numbers assigned in the left-hand column to the Psychopathic Hospital diagnoses.

Psychopathic Hospital Diagnoses.	Other Hospitals Diagnoses.															Total.				
	1. D. P.	2. M. D.	3. N. sy.	4. A. A. P.	5. Chr. A.	6. S. D.	7. Ep.	8. Art.	9. Kors.	10. Par.	11. Uncl.	12. Post P.	13. N. P.	14. Prec. S.	15. T. I. E.		16. Neur.	17. P. + F. M.	18. O. D.	19. Pay.	20. Inv. Mel.
1. Dementia Praecox.....	155	14	..	1	..	1	..	..	..	2	4	..	4	..	1	..	1	..	..	..
2. Manic-Depressive.....	60	11	42	1	..	..	..	1	..	..	1	..	1	..	1	1	..	..	..	..
3. Neurosyphilis.....	39	2	36 ¹	1 ²	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
4. Acute Alcoholic Psychoses.....	12	1	..	8	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
5. Chronic Alcoholic Psychoses.....	10	..	..	..	7	..	..	1	..	..	..	..	2	..	..	..	..	1	..	..
6. Senile Dementia.....	18	..	..	..	..	14	12	1	..	..	..	..	1	..	..	..	..	..	..	..
7. Epilepsy.....	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8. Arteriosclerotic Psychoses.....	22	3	..	..	1	3	..	12	7	..	1	..	..	..	1	..	..	2	..	..
9. Korsakow's Syndrome.....	11	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10. Paranoia and Uncl. Paranoid States.....	9	6 ³	..	1	..	..	..	..	..	3	..	..	1	..	2	..	1	2	..	1
11. Unclassified.....	23	6	1	1	..	..	..	2	..	2	5	1	7	..	..	..	1	..	..	..
12. Postpuerperal Psychosis.....	2	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
13. Not Psychotic.....	9	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14. Presenile Psychosis.....	2	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
15. Toxic-Exhaustion.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16. Neurasthenic Psychosis.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17. Psychosis + Feeble-Minded.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18. Organic Dementia.....	1	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
19. Psychoneurosis.....	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
20. Involution Melancholia.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21. Symptomatic Psychosis.....	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
22. Chronic Toxic Psychosis.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
23. Traumatic Psychosis.....	1	1	..	..	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..
24. Senile Delusional Psychosis.....	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total.....	419	183	63	12	12	19	12	19	7	7	14	1	16	0	6	1	2	6	1	2

¹ A psychopathic "infective paranoia" is called "G. P. + Paranoid D. P."
² Including three unclassified paranoid, one paraphrenia and two paranoia Psychopathic diagnoses.
³ Called "chronic alcoholic psychosis" at psychopathic.

also high, as in the acute alcoholic psychoses and in the arteriosclerotics. These figures, however, are less valuable because of the small number of cases concerned, but perhaps indicate an oversteering of certain symptoms or symptom-complexes in the diagnosis of these conditions.

The data presented in these tables are most conveniently discussed according to the psychiatric groups involved. The points of major interest are found in the cases with change in diagnosis. Accordingly, the greater stress is laid on these. In each case with recorded error, I have analyzed the Psychopathic Hospital record and have based a *personal opinion* as to diagnosis on that. Where-

TABLE IV.
SUMMARY BY DIAGNOSES.
(Arranged in Order of Diagnostic Accuracy).

	Psychopathic Hospital Diagnosis.	OTHER INSTITUTIONS.		
		Agree.	Disagree.	Per Cent. Disagree.
1. Epilepsy	12	12	0	0.0
2. Neurosyphilis	39	36	3	7.7
3. Dementia Præcox	183	155	28	14.8
4. Senile Dementia	18	14	4	22.3
5. Manic-Depressive	60	42	18	30.0
6. Chr. Alc. Psychosis....	10	7	3	30.0
7. Acute Alc. Psychosis..	12	8	4	33.3
8. Korsakow	11	7	4	36.4
9. Arteriosclerotic	22	12	10	45.5

ever possible, I have also either seen the patient or the record from the other institution. This, however, has only been feasible with those patients committed to the Boston State Hospital, representing less than half of the number of errors. I have tried to make an impartial analysis and an unbiased criticism in these cases, with the aim of locating the causes for error if possible.

Group I.—Dementia Præcox: This diagnosis, made 183 times at the Psychopathic, was concurred with in 155 cases and disagreed with in 28. This amounts to an error in 14.8 per cent of cases—well below the error previously recorded. In 28 additional cases another Psychopathic diagnosis was changed to dementia præcox. So, if we incorrectly call 15 per cent of cases dementia præcox, and miss 15 per cent, our error becomes

rather high. Of course the last error is somewhat less serious than the first, since the chances are that a better prognosis was given with a non-dementia-præcox diagnosis.

Of the 28 "errors," four have been left "unclassified" by the institution to which they were sent, leaving 24 cases in which the diagnosis seemed erroneous.

Of these, 14 are called manic-depressive and two are in hospital "unimproved"; two in hospital "improved"; one was discharged "improved" and nine were discharged "recovered." It may be noted that one case was discharged as a recovered manic-depressive, only to be returned to the institution when a diagnosis of dementia præcox was made. This is, of course, not counted as an error. In six cases the first diagnosis returned from the other institution was something other than dementia præcox, usually manic-depressive, but on second or third inquiry the diagnosis was changed to dementia præcox. These cases again are not counted as errors. It is possible that of the four cases now in hospital, a few may yet be called dementia præcox.

In examining our records on these cases, I find that in three the record seems to me typical for manic-depressive, yet a diagnosis of dementia præcox was made. So far as I can see the misleading symptoms do not appear in the record, however clearly they may have appeared in the patient. In two additional cases I cannot form an opinion from our records, as they do not give a sufficiently clear analysis of the case. Neither case was hallucinated, but both were called "indifferent."

In two cases I should judge from the history and examination that neither diagnosis was entirely correct, since one case was post-puerperal and one post-operative. The post-partum case, in particular, seems to be one of the toxic exhaustion cases with recovery. The other case presented ideas of reference for a year before the sudden onset of an excited, hallucinated, deluded state following etherization. Here, the confusion and hallucinations, with later recovery, point more to a toxic psychosis than to dementia præcox or manic-depressive.

The remaining seven cases are of some interest and may be briefly abstracted:

CASE 1.—A man, age 44, first attack of mental trouble. Always rather seclusive, he suddenly became destructive, with ideas of electricity, chok-

ing, visual and olfactory hallucinations. He was depressed, emotional, self-accusatory, had many somatic and sex ideas, ideas of influence and hallucinations for several days. Remained oriented. Except for the hallucinosis he seemed to be a case of manic-depressive. We called him dementia præcox. Six weeks later he had been discharged "recovered." Here the hallucinatory episode was allowed too much weight in the diagnosis.

CASE 2.—This unusual case is so complex that I am not satisfied that either diagnosis is correct. In 1913 he was committed, a diagnosis of manic-depressive made and he was discharged "recovered." In 1915 he was at this hospital; provisional diagnosis—dementia præcox, determined—delirium tremens. In 1916 he was twice here with a diagnosis of acute alcoholic hallucinosis. In November, 1916, he was admitted for the third time that year. He had many fantastic delusions and numerous hallucinations. At our staff meeting, five preferred dementia præcox to manic-depressive; two, manic-depressive; three, alcoholic psychosis; two, unclassified. Committed to another hospital, a diagnosis of manic-depressive was made and he was discharged "recovered." His drinking may have been due to his manic-depressive attack, but it seems that his psychosis was markedly colored by the alcohol.

CASE 3.—At 39 this woman had an attack in which she was violent, fearful, self-accusatory and called the dead. This lasted for four months. At 40 she had a similar attack of two weeks' duration; again at 42. At 43 she had an attack of four months' duration, this time influenced by alcohol. She was described as normal between attacks. At 44 she was admitted with auditory and visual hallucinations and ideas of electrical influence. There was no intelligence defect. She was indifferent; at first disturbed, then quiet, inaccessible, mute, resistive and had to be tube fed. During a month this condition continued. After transfer she was discharged as recovered from a manic-depressive attack.

If we grant that the observations were correct, and there was no history of alcohol, then our diagnosis was symptomatically correct; although the history would indicate a good prognosis for the attack.

CASE 4.—The mother of this girl developed a paranoid psychosis at about 55. The patient was disappointed in love; then became suspicious, deluded and worried. She became hallucinated, with conduct disorder based on this. She was frightened, agitated, depressed, resistive, hallucinated, suspicious, mute, deluded. She was impulsive, at times excited. This continued through her stay of two weeks. After transfer she was discharged as a recovered manic-depressive.

With the exception of the rather normal emotional response to the ideas and hallucinations, our diagnosis would seem to be symptomatically correct, but not verified by outcome.

CASE 5.—An interesting case of "late katatonia" occurring in a man of 50, with mental changes for a year and a previous attack with hallucinations. He was hallucinated and showed cerea flexibilitas, with later recovery.

CASE 6.—In this man the question of manic-depressive-mixed might be raised. He had gradually changed through three years and when seen at 38 was indifferent, irritable, deluded, hallucinated, impulsive, self-accusatory and somewhat depressed. In about three months was discharged "improved" and is now recorded as "recovered."

CASE 7.—This patient at 29 had an attack in which no hallucinations were demonstrable, but she was disturbed and later mute and resistive. She continued to show many queer signs but has now a "well-connected depression in which there seems to be nothing schizophrenic." Hence, she is regarded as a case of manic-depressive.

The next important group in which the diagnosis was changed is the group of four cases called "not psychotic." Two of these were called "constitutional inferiority" and two were called "feeble-minded." There is no doubt of this groundwork for the mental state in all four cases, but the symptom analysis of the four certainly shows a pathological mental state hardly to be explained by just this diagnosis. I am not arguing that they were necessarily cases of dementia præcox, but that there was something added. That the committing physicians who visit this hospital are very cautious about committing cases on such grounds alone is an additional point in favor of the view that there was a psychotic state. At all events, it is perfectly clear that episodes of various types occur in such patients, but it is not perfectly clear whether they are always a part of the original state or represent a new process.

One case in particular, studied by us for more than a month and twice presented at staff meeting, was called an imbecile at the hospital to which he went, although because of agrammatisms, neologisms and what might be called neograms and certain other schizophrenic features, we had made a diagnosis of dementia præcox which evidently went back for a considerable distance into his youth. There was a possibility of an organic condition. Accordingly, one would hardly be satisfied with the simple diagnosis of imbecility in a complex case of this type.

One case was called delirium tremens, but is still in the hospital a year and a half after commitment, where he is regarded as improved and is working steadily in the kitchen. If it were really a simple case of delirium tremens one would hardly expect that he would spend a year in a hospital. Our record says there is no alcoholic history, that he was apathetic, had ideas of persecution

and somatic delusions. He was not at any time confused. All of these are points against the diagnosis of delirium tremens.

One case which we called dementia præcox with senile changes was called senile dementia. He was 68, had been at Worcester at 18, at the Boston State Hospital at 30 and in some other asylum at 40. For many years, at least 12, he had been foolish, had ideas of persecution, confusion of recent memory, was pleasant, quiet and there were probably auditory hallucinations. The correct diagnosis would depend upon the accuracy of the history of changes for many years.

Two cases called by us paranoid dementia præcox were called unclassified paranoid condition. For the discussion of the difficulties in the way of diagnosis in the paranoid group, see below under "Unclassified Paranoids."

One case was called a toxic exhaustion psychosis from morphine and this diagnosis seems to have been correct, although we got no history of any morphine use.

One case was a post-puerperal case occurring in a negro girl, but with all the characteristics of dementia præcox. However, the institution to which she was sent made a diagnosis of psychosis plus feeble-mindedness and regarded her not as deteriorated but as having been originally of low level. Of course, the diagnosis psychosis plus feeble-mindedness is really equivalent to "undiagnosed" or "unclassified," since it does not attempt to state the type of psychosis present.

Group II.—Manic-Depressive: In this group there were proportionally many more changes than in the dementia præcox group. Our diagnosis was changed in 18, or 30 per cent of the group. In addition, 21 cases called something else by us were finally diagnosed manic-depressive by the other institutions.

The most interesting change is that from manic-depressive to dementia præcox, made in 11 cases. Two cases were discharged from the hospital making the diagnosis dementia præcox, as "recovered"; one was discharged as "improved." In all three cases the history of previous attacks or the examination here indicates manic-depressive to me.

One case has died and our record is to me clearly that of a paranoid dementia præcox and not manic-depressive as we diagnosed it.

The other seven cases remain in hospital "unimproved." Of these, one was called by us "chronic mania," which is probably really dementia præcox with long-continued excitement. Three cases I should call dementia præcox from reading the Psychopathic Hospital record. One case has an involution psychosis with uncertain features. One case is clearly a manic-depressive with three attacks, a complete recovery between each, and typical symptoms of manic-depressive, manic. The last case had a previous attack with recovery, then a second attack at 41. There were certain slight changes in the spinal fluid, indicating a probable organic disease. There were some symptoms of a præcox type, but the question of organic brain disease cannot be easily ruled out.

Accordingly, we can summarize the manic-depressive to dementia præcox changes by saying that in four cases the changes in diagnosis may be seriously doubted for reasons given above; one case is a chronic mania, which is probably dementia præcox; that four cases appear to be dementia præcox from the Psychopathic Hospital records and in the other two cases the change in diagnosis may be questioned, but it is possibly correct.

One case of agitated depression at the involution period was called a post-operative psychosis, despite the absence of consciousness, disorder and hallucinations and a persistence of the process for two years. In this case I should certainly believe involutional melancholia to be the proper diagnosis.

A case with three attacks of manic-depressive psychosis spent two of them at the same hospital which finally diagnosed his case alcoholic dementia, despite the rather typical manic picture shown.

Another very interesting manic case, with unusual features pointing to præcox, was called an alcoholic psychosis, despite the fact that our rather elaborate study of the case for three weeks failed to reveal more than a minimal use of alcohol. The symptoms were chiefly those of mania.

A hypomanic case was called a defective delinquent. To be sure, the boy was both defective and delinquent, but at the time of commitment he was certainly hypomanic. It may be noted that the diagnosis "defective delinquent" needs to be handled with care. Such patients may also be, or become, insane—a fact frequently overlooked. From the same institution I have recently obtained a diagnosis of defective delinquent in a straight out-and-

out paranoid case that has been committed three times to state hospitals.

One case of depression was called a neurasthenic psychosis. With this diagnosis I have no quarrel to make, since, as I have recently pointed out, the differential diagnosis between psychosis and psychoneurosis is often extremely difficult to make and, furthermore, many so called psychoneurotics are really insane in the technical sense of the word.

Group III.—Neurosyphilis: One would not expect to find any diagnostic errors in this group, except within the group itself (*i. e.*, cases diagnosticated paresis turn out vascular lues, etc.) because of the exact laboratory methods which are available for aid in diagnosis. However, there is a group of cases in which we find a psychosis, or even no psychosis, plus the serology of neurosyphilis, the latter producing no symptoms which can be directly attributed to it. Such cases have been reported in considerable numbers (see Barrett,¹ Lowrey,^{2,3,4} Southard & Solomon,^{10,11}) and several more such cases could now be added to the list.

Of the three errors in diagnoses which appear in our table only one, the case called alcoholic dementia, is of this type. This case was diagnosed "chronic alcoholic psychosis+neurosyphilis" at the Psychopathic, from which it will be seen that the major importance of alcohol was recognized, but the presence of neurosyphilis was also indicated. The two cases called dementia præcox by other hospitals are clearly, from our records, dementia præcox and there is no serological evidence to back up a diagnosis of neurosyphilis and I do not understand how such a diagnosis was made. A final case, which I have not classed as an error, was called "luetetic paranoid" at the Psychopathic and "general paresis +paranoid dementia præcox" at the other hospital. I should feel that our diagnosis was probably more logical. At any rate, I should want some extremely good evidence of the existence of the usual symptoms of paresis before I made a double diagnosis. However, both diagnoses recognized the relationship: neurosyphilis+paranoid psychosis.

Group IV.—Acute Alcoholic Psychosis: Of the four errors in this group of 12, one in which we raised a question of dementia præcox has been discharged as self-supporting, although some-

what dull. Another case called manic-depressive, manic, is said to show blunting, probably due to the use of alcohol. One case called by us alcoholic hallucinosis has been discharged recovered from a toxic insanity. Of course alcoholic hallucinosis is a toxic psychosis, but is a more exact diagnosis than merely *toxic*. Another patient called by us alcoholic hallucinosis has been discharged as a recovered case of dementia præcox. We are all aware that in a typical case of alcoholic hallucinosis, the differential diagnosis is alcoholic hallucinosis versus paranoid dementia præcox. The differentiation is to be based upon three factors: 1, The history of the abuse of alcohol in a person who was previously regarded as normal; 2, the normal emotional response to the ideas and hallucinations entertained; 3, the outcome in recovery in from four to six weeks, with good insight into the past mental illness. Accordingly, I should suspect that in two, and perhaps three of these cases the Psychopathic diagnosis was more nearly correct, judging by the history, symptoms and outcome, than the diagnosis in the other institutions.

Group V.—In the chronic alcoholic group, the two cases in which the diagnosis was changed to "not psychotic" did not present enough deterioration at the Psychopathic Hospital to be committed as insane, but were sent to the institutions as "habitual drunkards." So that, although I have classed them as errors in the table, they are really not such, since in both cases the other institution makes a diagnosis of "inebriate." The third case, however, is a rather interesting one of aphasia, in which the other hospital diagnosis of arteriosclerosis seems to be correct.

Group VI.—Senile Group: One case was diagnosed as an organic dementia which really amounts to saying that there is dementia due to some type of organic disease. It does not, however, make any exact diagnosis of the organic disturbance. A second case was called manic-depressive psychosis, apparently due to some history which we had not obtained. In a third case the diagnosis was changed to cerebral arteriosclerosis. Of course the differential diagnosis between senile dementia and arteriosclerotic psychosis is not always easy and in many cases represents a question of evaluation of indirect evidence more than anything else. One interesting case, which we called a senile

psychosis, was discharged "improved" with a diagnosis of "not insane" from the hospital to which she was sent. This woman's daughter, who was about 40 years of age, had a marked paranoid psychosis of slow development. The two women lived alone and the daughter convinced the mother of the reality of her delusions and hallucinations, and the old lady firmly believed them. We called it a senile psychosis although she was not demented.

Group VII.—Epilepsy: There were no disagreements in the diagnosis of epilepsy and we missed no diagnoses of epilepsy. This is probably to be explained by the fact that the epileptic cases which we see have usually a long history of fits or perhaps have some while they are in the institution. There has not always been verbal agreement as to the diagnosis of epileptic psychosis, but that of course may be due to a clearing up of the psychotic state at about the time of discharge to the other institution.

Group VIII.—Arteriosclerotic Psychoses: On the surface it appears that our least accuracy in diagnosis lies in the field of the arteriosclerotic psychoses. The diagnoses returned by the other institutions concurred with us in only 12 of 22 cases and in addition seven cases called by us something else are called arteriosclerosis by the institutions.

Three cases were called senile dementia. As was pointed out above, this differentiation is often very difficult to make, especially in the more advanced cases, and it often represents an interpretation of certain equivocal signs and an evaluation of conditions which can only be indirectly estimated. Accordingly, although these diagnoses are erroneous, the error is perhaps not a particularly serious one.

Two patients were called organic dementia, just as a case diagnosed by us "organic dementia" was called "cerebral arteriosclerosis" in the other institution. Of course, as pointed out above, organic dementia is not a diagnosis in the ordinary sense of that word, it is merely a recognition of state and a partial putting together of symptoms. Another case is regarded as one of chronic alcoholic psychosis. Here again the major symptomatology is much the same in the two conditions and differentiation depends upon history and the evaluation of certain signs. In this case there is an alcoholic history, but there are also signs of cerebral arteriosclerosis. Another case was left "unclassified,"

between alcoholic dementia and cerebral tumor, and here from our records the diagnosis would seem to be arteriosclerosis.

Three cases were called manic-depressive. Of these, one is clearly, from our records, a case of arteriosclerotic dementia and she has apparently an early stage of chorea. Had the chorea come on somewhat earlier in the course and been more marked, we should have been tempted to call her a case of "degenerative chorea." There are no evident signs of manic-depressive. To be sure she has periods of depression and excitement, never long continued, amounting really to an emotional instability. In the other two cases the portion of the symptomatology which is unusual for manic-depressive lies in the periods of confusions. Aside from this, one case might well be regarded as a manic-depressive-mixed and the other as a manic-depressive-depressed.

Group IX.—Korsakow's: This syndrome is one which has very definite signs and one in which we should not expect the diagnosis to be in error. However, there were four cases in which we seem to have made an erroneous diagnosis. One of these was called alcoholic dementia. It is well known that the outcome of a Korsakow's attack is often dementia and this dementia is usually very marked. Accordingly, in this case we are probably both right in the diagnosis. A second case recovered from a "toxic psychosis," which, of course, Korsakow's syndrome is. A third case was discharged as recovered from alcoholic hallucinosis. There were here certain slight signs of neuritis and some confusion which allowed us to believe that it was an early phase of Korsakow's. Apparently, however, the damage was not so great and the case ran the course of an hallucinosis. The fourth case was a very interesting one in which we were none too sure of the diagnosis, "Korsakow's," but we were unable, after an exhaustive study for more than a month, to reach any other conclusion. He has been left "unclassified" and is improving.

Group X.—The paranoid conditions constitute one of the most difficult groups in which to make a differential diagnosis. The tendency has been to classify the hallucinated paranoid conditions as paranoid dementia præcox, reserving the term "paranoia" for those cases of very long and slow evolution, in which there is a

well-systematized set of paranoid ideas without hallucinations and without deterioration. We made the diagnosis of paranoid in only two cases. In each case the state institutions made a diagnosis of paranoid dementia præcox, which I believe to be correct in one and probably incorrect in the other.

According to Kraepelin's last edition only about 40 per cent of the paranoid conditions with progressive delusion formation, not due to syphilis or alcohol, are cases of dementia præcox. The deterioration is often very slow in developing in these cases. About 50 to 55 per cent of the paranoid group as limited are cases of paraphrenia, while the remaining small percentage are cases of true paranoia.

We attempt now to differentiate the paranoid præcox group from the other paranoid cases by insisting that they show the characteristic emotion and will difficulties of schizophrenia. If they do not show these signs we usually leave them in the unclassified paranoid group. In one case we made a diagnosis of paraphrenia confabulans, which was changed to dementia præcox paranoid. This and two other changes from unclassified paranoid to dementia præcox represent really differences in standards of diagnosis and not any particular differences in the conception of the case. The final case, however, was a very interesting legal case in which we were not able certainly to determine the presence of hallucinations or to show any very marked deterioration. We felt that she was probably a paranoid præcox, but thought it safer to leave the case unclassified paranoid. Since being at the other hospital she has shown very clearly the characteristics of paranoid dementia præcox.

Group XI.—Unclassified: Concerning this group I have very little to say. They represent the cases in which for one reason or another we were not able definitely to decide what the psychosis was, during the period of observation here. They present, of course, a good many problems, as do all unclassified cases. In 18 of the 23 the other institutions were able to classify them but the institutions added, to the residue of five, eight more cases which they could not classify.

The remaining changes in diagnosis need not be discussed at very great length. They represent for the most part differences

in standards of diagnoses. Under the "not psychotic group" are included cases of feeble-mindedness and of psychopathic personality, which had for one reason or another to be committed. They all have a mental disease although it is not perhaps in the form of a psychosis. The scattering of further changes is not particularly important.

SUMMARY.

Data are presented dealing with the accuracy of the Psychopathic Hospital diagnoses on 419 patients. The Psychopathic diagnosis was determined within 10 days in all but a few. In a few cases we had more time, up to a month, to study the case. The cases have been followed for a year to a year and a half.

The figures are based upon the diagnoses made at 11 state institutions, McLean Hospital, and a small group of private sanatoria, to which our patients were committed. Most cases have been reported twice, and in a few instances three times.

The general error in diagnosis is established at 23.0 per cent (omitting the unclassified cases from consideration).

This error is not evenly distributed. Our greatest accuracy is in epilepsy (100 per cent); next in neurosyphilis (92.3 per cent); then dementia præcox (85.2 per cent.) Of the larger groups we are least accurate in arteriosclerotic psychosis (54.5 per cent); then in Korsakow's (63.6 per cent); then the acute alcoholic psychoses (66.6 per cent); then manic-depressive and chronic alcohol psychoses (70 per cent).

Many cases have had more than one diagnosis from the other institutions.

We diagnosed dementia præcox in 183 cases: diagnosis changed in 28, of which four were left unclassified. Twenty-eight cases were added to this group.

Of the 24 definite changes, two were unclassified paranoid. In three cases our record seems clearly that of a manic-depressive; in one, manic-depressive + some unusual symptoms. In these four cases there should have been no error. One case of late katatonia should probably not be called manic-depressive. In three cases, our record is that of dementia præcox, and the outcome is not yet certain. In four cases our diagnosis seems symp-

tomatically correct, but not verified by outcome. In three cases I believe neither diagnosis to be correct, and in four more I am fairly certain the final diagnosis is incorrect, but have no exact opinion as to correct diagnosis. In another case the accuracy of the history must decide: in two, I can form no opinion.

The diagnosis was changed in 18 of 60 cases called manic-depressive at the Psychopathic, and 21 cases were added. One case is left unclassified.

Of the 17 definite changes, my own opinion is as follows: That in eight cases, according to symptomatology and outcome, the Psychopathic diagnosis is probably correct; in four cases the Psychopathic record is such that a diagnosis of manic-depressive should not have been made, and the other institution is correct; in three, the second diagnosis is probably correct, although the Psychopathic diagnosis may eventually be proven.

Of the three errors made in the diagnosis of 39 cases of neurosyphilis, two should not have been made, since our record clearly agrees with the other institution's diagnosis. In the third case we recognized the presence of neurosyphilis, which the other institution did not.

Of the four errors in the diagnosis of 12 cases of the acute alcoholic group, I should doubt the "recovered" dementia præcox; believe that acute alcoholic hallucinosis is a better diagnosis than "toxic insanity"; and believe that a recovered manic-depressive showing "blunting due to the use of alcohol" *probably* had an alcoholic psychosis.

Two of the three errors in the chronic alcoholic group are really not errors, since we did not regard them as sufficiently deteriorated to commit as insane. The other case is a frank error.

In the arteriosclerotic group, changes to senile dementia occur three times. Such changes depend largely upon interpretation of findings. In four of the 10 cases in which diagnosis was changed, the second diagnosis seems to be erroneous, and in two more the diagnosis is less exact than ours, while one case is left unclassified.

The four changes in the diagnosis of Korsakow's syndrome represent: 1, A very difficult case in which we were none too sure of the diagnosis; 2, an end state (dementia); 3, a "toxic" psychosis; 4, alcoholic hallucinosis.

The paranoid conditions are often very difficult of exact diagnosis. Four of the six changes represent differences in diagnostic ideas; one more was caused by further developments in the course of the disease.

Therefore, in 396 cases diagnosticated, there were 91 changes. Of these nine are left unclassified, and the Psychopathic diagnosis may eventually be proven correct. Of the remaining 82, 10 are cases in which, from the Psychopathic record, no error should have been made. In 21 more the Psychopathic diagnosis is probably correct. Three cases classed as errors are not really so. In three cases probably neither diagnosis is correct. So, if we exclude the cases left unclassified; the cases in which we are probably correct and those in which there was really no error, we are left with a total of 58 frank errors among 396 cases, or 14.6 per cent. This raises the question: "What is the error in psychiatric diagnosis at large?" which can only be answered by each institution critically analyzing its own diagnoses and errors. Compilation of such figures from several institutions would be of extreme value.

It appears more and more strongly that *accurate observation and intelligent interpretation* are the fundamentals of correct diagnosis, and that there is need of a unification of diagnostic standards.

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THE ORGANIZATION OF THE STATE HOSPITAL SERVICE IN ILLINOIS.*

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The increasing interest of the general public in efficiency of state government has led to closer attention to the organization of the Department of the State devoted to the care of handicapped individuals which represents one of the largest items in a state budget. The subject is relatively simple where there are but one or two institutions to be considered, but becomes increasingly complex as the number rises. Each institution is a unit which, because of varying conditions in different localities, must have considerable autonomy and yet, for efficient administration, it is essential that there be uniformity of general policy with proper provision for real responsibility.

Prior to 1909, Illinois, like most other states, operated each of its institutions as an independent unit under the direction of a local board of trustees. A State Board of Charities, advisory only in its functions, served to establish some small measure of coordination. The great defect in this system was the fact that each unit worked for its own interests alone and could thus bring about considerable inequality in the distribution of funds and other means for operation. The superintendent again was responsible only to the board of trustees who were unpaid and, acting as a board, could not very well be called to account.

The interference by politicians which obtained during this kind of management in many institutions cannot be attributed to the system itself, but the fact that such domination with all its baleful consequences could continue unchecked and largely unknown to the public must be considered a defect in the method.

The first big change in system was an effort to eliminate this political control by means of a Civil Service Act which became

* Read at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

operative in 1905. This, at first, was applied only to the state hospitals, but has since been extended to the penal and correctional institutions, although in all instances the managing officer is still excluded.

In 1905, also, the State Charities Commission became much more active by reason of the character of its personnel and this body did much to improve conditions generally and to lay the foundation for the next step which was taken in 1909 when the various boards of trustees of the state hospitals, the colony for the feeble-minded and the charitable institutions were abolished and replaced by the State Board of Administration.

This body consisted of five members appointed by the governor with the consent and advice of the Senate. It was provided that one member of the board should be a physician experienced in mental diseases and that at least two members should be of the minority political party. In other words it was a bipartisan board with the control in the hands of the majority party. The provision for the bipartisan character of this board unquestionably tended to bring with it a recognition of politics as a factor in determining its personnel. An attempt was made to guard against the domination of the board by politics by arranging that the term of office should be six years, thus exceeding that of the governor by two years. The terms were so arranged that not more than two would expire in one year. In practice this provision was, however, nullified by the ability of the governor to secure the resignation of all members at his request.

The board acted as a whole, each member casting his vote upon any question which might come up even though the functions of the individual members were vaguely defined by their designation as president (elected by the board), secretary, fiscal supervisor and alienist. The fifth member had no title. The defect in this arrangement is obvious. The alienist, for example, although selected because of professional experience, had theoretically no more voice in determining the medical policies of the hospital than had the secretary or fiscal supervisor. Hence he could not in any sense be held responsible.

Through this administrative body it was possible to secure far greater uniformity of methods and budget organization within the hospitals. All purchases for all institutions were also made by it

upon requisition of the managing officers thus rendering it possible to buy more economically. Although not inherent in the system, the practical result of its methods of operation was a gradual centralization of authority in the board, even in regard to details, with corresponding loss on the part of the individual superintendent. This is a danger that must always be guarded against by any central body for, under such conditions, the superintendent can no longer be held responsible.

To assist in the direction of the professional work of the hospitals, a state psychopathic institute, originated by the State Board of Charities in 1908, was officially established in 1909 by the act creating the Board of Administration. The alienist was designated by the board as the director in chief of the institute. Founded with the objects of giving psychiatric instruction to medical officers and conducting research into the problems of insanity it had, however, no authority in the hospitals except through the Board of Administration.

In 1917, as the result of the personal efforts of our present governor, Frank O. Lowden, there was passed a code of civil government which has in effect resulted in the abolition of approximately one hundred boards and commissions and their replacement by nine state departments. The prime objects of this development were the removal of scattered, and often duplicated, authority and the establishment of really responsible management in all fields of state activity. Among others the Board of Administration was abolished and its functions centered in the Department of Public Welfare. At the same time the boards of trustees of the two penitentiaries and of the reformatory, together with certain other boards and commissions, were abolished and their activities brought under the same department.

The civil code provides that each of the nine departments (which are known as finance, agriculture, labor, mines and minerals, public works and buildings, public welfare, public health, trade and commerce and registration and education) shall be under the command of a director responsible for the work of that department. It also creates a number of divisions within the departments each with an officer at its head. The directors and their staffs are appointed by the governor by and with the advice and consent of the Senate. All subordinate positions, with the exception of the

managing officers of the various institutions who are appointed by the director, are selected through the Civil Service Commission.

The system of organization within each department is essentially similar and we need describe only that of the Department of Public Welfare in which mainly we are here interested. The staff consists of seven members, four of whom are administrative and three functional. They are: An assistant director, a functional officer who acts as secretary, keeps the records and has charge of the seal; a fiscal supervisor who superintends the business transactions of the whole department; a superintendent of charities who is responsible for the operation of the hospitals for the insane, the school for feeble-minded, the epileptic colony, the schools for delinquent boys and girls and the charitable institutions; a superintendent of prisons, responsible for the administration of the penitentiaries and reformatory; a criminologist who acts also as the director of the Juvenile Psychopathic Institute and is responsible for the professional work in the penal and correctional institutions and the direction of the machinery for the study and prevention of delinquency and the after-care of delinquents; an alienist who directs the teaching and research work of the Psychopathic Institute, supervises the medical and professional work of the state hospitals, school for the feeble-minded, epileptic colony and the charitable institutions.

Besides these seven officers there is also within the department a Board of Public Welfare Commissioners, five in number, who serve without pay, but are provided with an executive secretary. The functions of this board, which replaces the State Commission of Charities, are advisory but they are specifically required to investigate the condition of the various institutions under the Department of Public Welfare, their equipment and management and to collect and publish statistics relating to insanity and crime.

Each officer is directly responsible to the director for the work of his division. The functions of each are now reaching a clear definition. The organization is therefore essentially different from that of the Board of Administration in which each member had equal authority in all matters. The scheme also provides for a very valuable distinction between administrative and professional work. These two functions are so different in character that it is very rare to find any individual capable of performing both and

there has been a very general tendency to subordinate medical to administrative qualification, which is, in my opinion, largely responsible for the slow development of our state hospitals. They are almost universally well managed in the way of general upkeep, but there is only too often a decided poverty in professional progress.

Under the Illinois system the managing officer of a state hospital is responsible for the operation of the institution to the superintendent of charities, but is subject to the direction of the alienist in regard to matters involving the professional care and treatment of patients. Means for cooperation between the various divisions is provided by holding staff meetings over which the director presides.

The administrative machinery is perhaps a little complex, but in practice works very smoothly. The purchase of supplies is made by the superintendent of a division of purchases and supplies in the Department of Public Works and Buildings and not by the Department of Public Welfare. Requisitions from the managing officers pass through the hands of the fiscal supervisor and are then sent to the purchasing division which buys everything used by the state government. The forms to be used for bookkeeping, vouchering, etc., the preparation of the budget and the financial supervision generally are vested in the Department of Finance. The erection of buildings, supervision of architecture and engineering work for the whole state including the institutions under the Department of Public Welfare are upon requisition conducted by the Department of Public Works and Buildings.

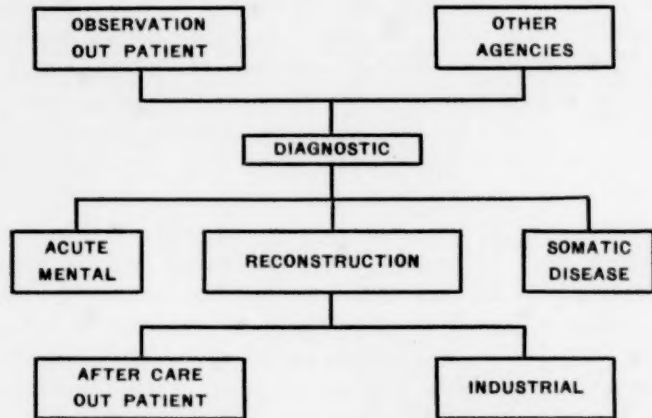
To ensure cooperation in these interdepartmental activities meetings of the directors are held at frequent intervals at which general policies are discussed and decisions reached. This body thus acts as a cabinet to the governor and serves to preserve a proper balance in the work of the state.

I have already called attention to the provision for separate control of the administrative and professional work of the institutions. This division of duties brings with it the possibility of establishing a clear-cut professional organization of the state hospital which should be the central feature around which the administration is built instead of dividing the institution for convenience in administration as is usually done. As yet the department is too

young to have succeeded in finally defining such a scheme, but a tentative arrangement has been adopted which I have described in some detail in a paper now in the press. This I may here briefly outline.

The scheme is shown in graphic form on the accompanying chart. The two groups in the top line represent the agencies through which a patient enters the institution that to the left being part of the hospital organization chart. The chief feature of the plan consists in the establishment of a "reconstruction" division through which all patients must pass before being either released,

PLAN OF STATE HOSPITAL ORGANIZATION



with or without supervision, or being placed in the custodial or, as here called, industrial division. This reconstruction division carries out work which should be considered as the principal function of a state hospital. Its aim is the rehabilitation of the individual to the highest degree possible, whether he must remain permanently within the institution, in which case he is trained for taking part in its industrial work, or is to be permitted to resume more or less of the responsibilities of citizenship. In this latter case the effort is made to fit him better for life in the world by giving instruction in occupation and habits of adjustment.

The hospital divisions, one for acute mental disorder and the other for somatic disease, take their place as adjuncts for tempo-

rary residence in which are provided special means for treatment designed to promote a return to sufficient health to permit of reconstructive work.

Special attention may be directed also to the provision for special observation wards and outpatient departments which, according to circumstances, may or may not be located within the confines of the hospital. In any event they form a most important part of the organization both for prevention and after care and will also include the means for obtaining information for use in diagnosis. The diagnostic division, which will include the laboratories, corresponds with what is usually known as the reception service, but is given this title in order to emphasize and clearly define its functions.

The division labelled "industrial" corresponds with what is more commonly designated as the custodial service and necessarily contains the large bulk of the inmates of the institution. The title here used is intended to convey what I believe should be its real function. Idleness should not be permitted and the fullest use possible should be made of the capacity for employment of those who must remain segregated from the world not only for economy, but also for the benefit of the patients themselves. As already indicated, special training with this in view will be given in the reconstruction division.

Such, in brief, is the plan upon which the Illinois state hospitals are being organized, but before concluding let me call your attention to another feature in the provisions of the civil code which we regard as one of the most important. This concerns the inclusion of the penal and correctional, in the same department with the insane and charitable, institutions. That crime and delinquency are disorders of behavior requiring similar methods of study and diagnosis to those of insanity, feeble-mindedness and dependency is gradually being recognized. Under the Illinois system there becomes possible a very close cooperation between the two groups with interchange of means for study and treatment. The medical staffs have been amalgamated in the sense that physicians can be transferred from one group to the other, thus providing for a broader training of medical officers and the introduction of psychiatric methods into the penal and correctional institutions. The general plan for the professional organization of the peni-

tentiaries is being made to follow very closely the lines laid down above for the hospital.

The machinery for research and preventive and after-care work will also, to a large extent, be fused so as to avoid unnecessary duplication and permit of the greatest economy. This work is as yet in its infancy in this state, but a beginning has been made by the establishment, in temporary quarters, of the Juvenile Psychopathic Institute in Chicago which is, at present, serving not only in the study of delinquency and juvenile behavioristic problems, but also in the after-care of cases from those state hospitals which receive from the Chicago district. This it is planned to greatly enlarge and to incorporate with the Psychopathic Institute in permanent quarters. This institute thus formed will act as a research and teaching center which will in all probability have close relations with the medical college of the State University.

The outline here given is necessarily somewhat sketchy, but will afford a general idea of the plan of operation. Its principal advantages are: (1) The establishment of direct responsibility in all fields; (2) the elimination of much unnecessary reduplication of machinery, and (3) the clear recognition of the distinction between professional and administrative functions.

PSYCHOPATHOLOGICAL OBSERVATIONS IN A GROUP OF FEEBLE-MINDED.

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The material comprised in this paper does not represent an attempt to write what Goddard has called "A chapter in the story of feeble-mindedness which is not yet written,"¹ namely, the relation of insanity to constitutional mental retardation. The subject-matter here is offered for what it is worth, merely as a record of psychopathological facts observed in the examination of certain cases from The Training School for Feeble-Minded at Vineland, N. J., which were referred by Superintendent Johnstone as having "insane streaks." In the examination of these patients all data of the family history, past history, behavior curves since admission to the institution, as well as the psychological tests for determining the patient's mental level, have been taken directly from the institutional records.

Three of the 16 patients examined were found to be frank epileptics with episodic outbursts of irritability, combativeness, and confused behavior, such as wandering about unclad. These episodes followed a convulsive seizure, or a series of the same, and all were followed by complete amnesia for the behavior during the attack.

Four of the remaining 13 patients showed in association with their original mental deficit a definite psychotic development. The following are brief records of these cases:

(1) A. B.; æt. 24. Female.

Family history, negative.

The patient did not walk until 20 months and is described by her parents as always stubborn, affectionate at times, sometimes untruthful, resentful of correction, sly, morose, moody, seclusive with no play interest, but almost daily temper tantrums. She was backward in school. On admission to The Training School, March, 1915, her "mental age," according to the Binet-Simon test, was 9 years, the basal year 4, with scattering successes which brought her up to 9 years. On admission she was neat in appearance and in the care of her room, did a little housework about the cottage, but showed no interest in anything around her. She was inclined to be impudent

and disobedient, was undemonstrative to the family on their visits, laughed and giggled to herself without cause, and would sit and dream for hours. During 1916 and 1917 the behavior of the patient underwent a general slump. She grew careless in her appearance, slovenly and gluttonous in her eating, surly, openly autoerotic; she showed bizarre behavior, such as throwing herself flat on the floor in the school-room, and had outbursts of screaming, kicking and striking attendants and children, so that she had to be sent to the hospital with these attacks every few days. In April, 1918, the patient's behavior was described as untidy night and day, openly autoerotic, and given to such queer activities as rushing into the dining-room and snatching all the food off the table.

Mental Examination, July, 1918.—The patient was found idly fingering her dress and unbuttoning it to the waist. At times she would break into empty, mirthless laughter without any obvious association or relation to questioning. She allowed her reflexes and pupils to be tested, but when asked to hold up her right hand, she held up her left hand, and then both hands. When asked to name such objects as key, watch, pin, etc., she would not speak, but nodded her head in the affirmative if the examiner called these articles by their right name. For the most part she answered questions by nodding her head, except on two occasions when she gave her name and the city where she lived. It was impossible to get any cooperation from her in response to questions as to orientation and memory; she did not show the slightest appreciation of her environment.

Physical examination, negative.

Discussion.—It is unfortunate that we know little about the patient previous to admission. The parents' account of her disposition and make-up, with seclusiveness, day-dreaming, vacant laughter and episodic emotional explosions, shows that we are dealing with an individual whose course and development from the start has differed from that of the ordinary feeble-minded individual of 10 years' "mental age." So far as we know, the patient's shut-in characteristics did not begin to assert themselves at any definite date. There has been a gradual introversion of the personality with a progressively downward curve of adaptability, of interests and activities to the dementia-like condition of the present time. From a study of the facts of this case one is inclined to believe that the developing schizophrenic process and the mental retardation are merely associated phenomena, and do not bear the relation to each other of cause and result.

(2) C. D.; æt. 15. Male.

Family history, negative.

Nothing backward was noted in his early development except a difficulty in articulation until the age of 6. He attended private school for 5 years,

but did poorly. The father states that his lack of progress did not seem to be so much a difficulty in learning, as a peculiarity of disposition. The patient was "never like other boys"; he stayed by himself, was not fond of play, was sensitive, "reflective," timid and shy. On admission to The Training School, July, 1917, his "mental age," according to the Binet-Simon test, was 9 years, basal year 4, with scattering from 4 to 9 years.

Behavior Notes.—During the first few months the patient harped on certain institutional requirements which conflicted with his religious ideas, such as doing cottage work on Sundays and having Sunday religious services in the afternoon instead of the morning. The cottage matron describes his behavior as follows: "He bursts out laughing without any reason. Most of the time he just sits and dreams, and when working at the loom will drop the shuttle and sit staring into space. He seems to be thinking either on religious subjects or other mature material. He is moody and wants to be left alone; will throw himself on the grass for hours at a time as if in a deep study."

Mental Examination, July, 1918.—The patient came to the office without reluctance. His gait was short and sidling, with a good deal of hip movement. During the examination he sat quietly except for twirling a bit of string in his fingers. His face wore a constant, shallow, vapid smile which seemed to have little or no emotional value and impressed one almost as silly coquettishness. His response to questions was more or less stereotyped and delivered in short, jerky sentences with the same formula of utterance, as follows: (Long pause following the question, while the patient gazed into space with head poised on one side. After a second he would start and say:) "Let's see did you speak to me? Oh! yes, how old am I? Well, I am 15 years." With this manner of jogging through the mental status he was found to be correctly oriented and to have a good memory for remote and recent events. He could retain 7 digits after once hearing them, and get the gist of test stories with one reading. General information and calculation were good. He described his mood as happy except when he felt languidly revengeful for the imposition of Sunday labor. He mentioned occasional imaginary voices whispering to him, but could not tell what they said, he spoke of once seeing an imaginary person standing by his bed, and admitted continuous rumination along religious lines. He and God are alike because they are "both good and incapable of sin." (Does God ever talk to you?) "No." (Where does your mind run when you sit and stare?) "I just sit that way and my mind dwells on nothing and I don't know and nobody knows but God. God and I are alike because we are both good." (Why don't you take an interest in something?) "I like to rest." (Do you think that is right?) "Yes! God likes it because I do." There were no ideas of reference nor tendency to the mind-reading complex.

Physical examination, negative.

Discussion.—This patient, with a shut-in constitutional make-up and a history of gradually narrowing range of interests, activities

and disobedient, was undemonstrative to the family on their visits, laughed and giggled to herself without cause, and would sit and dream for hours. During 1916 and 1917 the behavior of the patient underwent a general slump. She grew careless in her appearance, slovenly and gluttonous in her eating, surly, openly autoerotic; she showed bizarre behavior, such as throwing herself flat on the floor in the school-room, and had outbursts of screaming, kicking and striking attendants and children, so that she had to be sent to the hospital with these attacks every few days. In April, 1918, the patient's behavior was described as untidy night and day, openly autoerotic, and given to such queer activities as rushing into the dining-room and snatching all the food off the table.

Mental Examination, July, 1918.—The patient was found idly fingering her dress and unbuttoning it to the waist. At times she would break into empty, mirthless laughter without any obvious association or relation to questioning. She allowed her reflexes and pupils to be tested, but when asked to hold up her right hand, she held up her left hand, and then both hands. When asked to name such objects as key, watch, pin, etc., she would not speak, but nodded her head in the affirmative if the examiner called these articles by their right name. For the most part she answered questions by nodding her head, except on two occasions when she gave her name and the city where she lived. It was impossible to get any cooperation from her in response to questions as to orientation and memory; she did not show the slightest appreciation of her environment.

Physical examination, negative.

Discussion.—It is unfortunate that we know little about the patient previous to admission. The parents' account of her disposition and make-up, with seclusiveness, day-dreaming, vacant laughter and episodic emotional explosions, shows that we are dealing with an individual whose course and development from the start has differed from that of the ordinary feeble-minded individual of 10 years' "mental age." So far as we know, the patient's shut-in characteristics did not begin to assert themselves at any definite date. There has been a gradual introversion of the personality with a progressively downward curve of adaptability, of interests and activities to the dementia-like condition of the present time. From a study of the facts of this case one is inclined to believe that the developing schizophrenic process and the mental retardation are merely associated phenomena, and do not bear the relation to each other of cause and result.

(2) C. D.; æt. 15. Male.

Family history, negative.

Nothing backward was noted in his early development except a difficulty in articulation until the age of 6. He attended private school for 5 years,

but did poorly. The father states that his lack of progress did not seem to be so much a difficulty in learning, as a peculiarity of disposition. The patient was "never like other boys"; he stayed by himself, was not fond of play, was sensitive, "reflective," timid and shy. On admission to The Training School, July, 1917, his "mental age," according to the Binet-Simon test, was 9 years, basal year 4, with scattering from 4 to 9 years.

Behavior Notes.—During the first few months the patient harped on certain institutional requirements which conflicted with his religious ideas, such as doing cottage work on Sundays and having Sunday religious services in the afternoon instead of the morning. The cottage matron describes his behavior as follows: "He bursts out laughing without any reason. Most of the time he just sits and dreams, and when working at the loom will drop the shuttle and sit staring into space. He seems to be thinking either on religious subjects or other mature material. He is moody and wants to be left alone; will throw himself on the grass for hours at a time as if in a deep study."

Mental Examination, July, 1918.—The patient came to the office without reluctance. His gait was short and sidling, with a good deal of hip movement. During the examination he sat quietly except for twirling a bit of string in his fingers. His face wore a constant, shallow, vapid smile which seemed to have little or no emotional value and impressed one almost as silly coquettishness. His response to questions was more or less stereotyped and delivered in short, jerky sentences with the same formula of utterance, as follows: (Long pause following the question, while the patient gazed into space with head poised on one side. After a second he would start and say:) "Let's see did you speak to me? Oh! yes, how old am I? Well, I am 15 years." With this manner of jogging through the mental status he was found to be correctly oriented and to have a good memory for remote and recent events. He could retain 7 digits after once hearing them, and get the gist of test stories with one reading. General information and calculation were good. He described his mood as happy except when he felt languidly revengeful for the imposition of Sunday labor. He mentioned occasional imaginary voices whispering to him, but could not tell what they said, he spoke of once seeing an imaginary person standing by his bed, and admitted continuous rumination along religious lines. He and God are alike because they are "both good and incapable of sin." (Does God ever talk to you?) "No." (Where does your mind run when you sit and stare?) "I just sit that way and my mind dwells on nothing and I don't know and nobody knows but God. God and I are alike because we are both good." (Why don't you take an interest in something?) "I like to rest." (Do you think that is right?) "Yes! God likes it because I do." There were no ideas of reference nor tendency to the mind-reading complex.

Physical examination, negative.

Discussion.—This patient, with a shut-in constitutional make-up and a history of gradually narrowing range of interests, activities

and contacts with the world of reality, represents a psychopathological condition resembling that of A. B. in the early course of her development. We see the same dogged persistent rebellion against authority in the case of this patient, associated with fantastic ruminations along religious lines, and vague hallucinatory experiences. Any attempt to keep in touch with the real world in the form of cottage duty, school work, handicraft, etc., has failed, and we see him slipping daily more and more into the world of fantasy, as outwardly expressed by his increased preoccupation, seclusiveness and general inaccessibility.

(3) E. F., æt. 23. Male.

Family history, negative.

The patient did not begin to talk until 2 years or to walk until 19 months. With failure to get on in public school he attended a class for defective children for 8 months. His father described him as always very nervous, hard to manage, shy, preoccupied, seclusive, given to temper tantrums with crying and overtures of affection afterward. The psychological examination on admission to The Training School, 1913, showed a "mental age" of 8 years (basal year 4, with scattering from 4 to 12 inclusive).

Behavior Notes.—The patient has no ambition to work or play and talks to himself a great deal. He is always quarreling with the other boys and sometimes runs around in a circle and screams without any observable provocation. He has a mania for picking up strings. He talks a great deal, but cannot do the simplest things in handicraft or cottage work. In making beds he will put on the bed clothes and take them off again several times. When dressing he will dress and undress himself, as if unable to stop until told to do so. Dusting and scrubbing and sweeping are away beyond him. "He likes to stay by himself and is always being offended by some imaginary trouble that could be easily remedied if one could only get him to tell what the trouble is."

Mental Examination, July, 1918.—The patient came to the office from the laundry where he had been dismissed because of a quarrel in which he tore up sheets. He told of the episode with naiveness and with no residual of anger nor any other emotion; he answered questions relevantly, but when left to his own conversational originality he talked about nothing but a tooth on the right side, which, according to the institutional records, has been a chronic topic of conversation without cause for a number of years. He was correctly oriented for time and place. His mood was a jocular smoothing over of his obsessive-like behavior in dressing and undressing. There were no hallucinations nor delusions. He said that he had "scarey spells" brought on by sudden noises and people "hollering" at him. (Do you have nervous spells?) "I get scarey sometimes when people around me yell." (What are you afraid of?) "I am afraid of birds, black birds and doves and hens." (Why?) "I am afraid of the feathers." (In what

way?) "They just seem alive and going to jump at me." (Why do you sometimes dress and undress without stopping?) "It's the neuralgia in this tooth." (How does that work?) "Well, you see, this right side of my face is always sore and I keep putting my clothes on and taking them off to see if I can do it without touching my face." The patient's memory was poor. He gave his age, but could not tell the date of admission to or how long he had been at the institution. He repeated 7 digits after once hearing them and retained 3 phrases for 5 minutes.

Physical examination, negative.

Discussion.—In considering the facts in this case one is struck by an adaptive level below that of the average individual with a "mental age" of 9 years. The patient cannot wash or dress himself without help, or tie his shoes. Associated with this is a peculiar obsessive-like behavior, such as dressing and undressing continuously, for which he gives somewhat peculiar motives. His explanation for this conduct impresses one as frankly childlike, rather than an attempt to smooth over any delusional material. His emotional outbursts of anger followed by childish penitence are akin to the tantrum-like reactions which seem to be a fairly frequent occurrence with the feeble-minded. However, his queer episodic behavior coupled with seclusiveness, preoccupation and poor adaptability are suggestive of an essentially schizophrenic process.

(4) G. H., æt. 25. Male.

Family history, negative.

The patient did not walk until 3 years, and was slightly backward in school. His disposition was described as nervous, excitable, morose, obstinate, seclusive and hard to manage. Prior to admission he is said to have done "office work" for his father. Psychological examination on admission, October, 1916, showed a "mental age" of 8 years (basal year of 4 with scattering, which brought him up to 8 years).

Behavior Notes.—"Patient is practically worthless in any kind of work. He will stand and stare and cannot do the simplest things. This does not seem as if it were because the patient is not bright, but because he is thinking of something else. He will not associate with the other boys, but sits around by himself, talking, always about his father and family. While at work in the field he sometimes starts and runs a quarter of a mile without giving any reason for his conduct. At night he often sits on his bed for 2 or 3 hours muttering and holding imaginary conversations, in which he talks of jails and asylums and prisons without much connection."

Mental Examination, July, 1918.—The patient hurried into the office saying, "Do you think there is any hope for my mind, doctor?" (What is the matter with your mind?) "I am all right. I do my work all right.

Do you think there is any hope for my mind?" When the patient's attention was fixed he would answer relevantly, giving his name, age and birth-place, but if left to himself drifted immediately to the above topic. When questioned about his peculiar behavior in dressing and muttering to himself at work, he said, "My mind is in bad shape. I get scared when I see a hearse and I run. My hands look red—everything looks red. When I go to bed at night I talk to imaginary people. I imagine people are talking about me and sometimes they are after me. Everybody is against me. My father is against me and my brother." The patient could not be induced ever to go beyond this point in the discussion of his imaginations. When his attention was fixed he was found to be oriented as to time, place and person. His memory for remote events was good. He was able to repeat 7 digits after once hearing them and remembered the test phrases for 5 minutes.

Discussion.—It is unfortunate that the records in this case give us little idea of the patient's developmental traits and his assets in the form of work, play and general interests prior to admission. Fundamentally, his psychopathological picture has not changed since he entered the institution 2 years ago. During this period the following characteristics stand out in his behavior and general adaptability, in more or less striking contrast to that of his colleagues of corresponding "mental age," viz.: Lapses of attention due to preoccupation and day-dreaming; poverty of interests; seclusiveness; adaptive inferiority far below his "mental age"; stereotyped harping on home matters, with suspicions and feelings of injustice; probable hallucinations of hearing; and peculiar behavior, such as tearing about the grounds, gesticulating, and shouting queer utterances about Harry Thaw, jails, etc. One feels that the patient had an original defect, in connection with which there has been a gradual decline in assets and a tendency to withdraw into a world of fantasy and rumination.

Summary.—These four cases show a psychopathological picture of a schizophrenic process, which so far as we make out from the data at our disposal seems to have been co-existent from the start with the mental retardation, or may have been implanted as a "Pfpopfhebephrenic."¹ As has been pointed out in the individual cases, one notices a progressive adaptive inferiority, quite out of keeping with the behavior accredited to the ordinary feeble-minded patient of an 8 years' "mental age." Attention should also be called to the occurrence in the above cases of the so-called shut-in constitutional make-up, which has been described since Meyer's analysis of the neurotic constitution in

1903,² as a characteristic finding in studies of the personality in schizophrenic patients without original mental defect.

The remaining 9 cases presented no definite psychosis, but included a wide range of individual reactions characterized as temperamental idiosyncrasies of the feeble-minded. This phrase includes such mood upheavals as temper tantrums, either as a spoiled child's means of attaining an end, as a sudden tempest of petulance and impatience, or as a sort of getting-square reaction in relation to teasing and similar minor provocations; it embraces panic states over such petty situations as walking alone after dark, or over early bedtime imaginations of ghosts and people under the bed; there is also found an ease of excitability with "flying all to pieces" and confusion when "somebody hollers at me quick" or "tells me to hurry up" or "there is a crowd around." These vagaries of behavior are self-contained individual reactions comparable with those observed in the so-called "normal" child of a chronological age corresponding to the "mental age" of these feeble-minded patients. It would be tedious for the reader to follow a discussion of the personal difficulties represented in each of these 9 cases, and I am accordingly presenting only a few of the psychopathological pictures taken at random from case notes made at the time these studies were undertaken.

I. J., æt. 19. Male.

The patient was admitted to The Training School in 1913, showing a "mental age," according to the Binet-Simon test, of 8 years. He was referred to the examiner chiefly because of outbursts of temper in which he "beats up" the other boys. During the examination the patient reminded one of a lazy, overgrown boy. He answered questions readily, naively confessed his faults while he played with various objects on the table in a childish manner. He was oriented as to place and time. His mood was one of lazy good nature with marked aversion to teasing and implicit faith in his own methods of retaliation. There were no delusions or fancies. (How are your spirits?) "All right, except when I get mad at the boys." (Then what happens?) "I crack them in the jaw." (Why do you get mad with them?) "They tease me and throw stones at me." When asked about his ambitions and interests he replied: "When I get to be 21 I am going to take my foot out of here and buy a gun and a box of bullets and a sword, and I am going on a battleship and be captain of the sailors."

Discussion.—So far as one can judge from the patient's history and mental status, there is no indication of a psychopathic process at the present time. He has always shown marked indolence of

mind and body, which is a constitutional feature, perhaps more responsible than is his mental retardation for his work deficit, which is such a continual source of annoyance. That he should react to teasing by seeking justice with his fists or running away from the school grounds, as he sometimes does, seems quite consistent with his usual methods of getting square with things that irritate him, and certainly is in keeping with his pirate ambitions to buy a gun, box of bullets and a sword.

K. L., æt. 46. Female.

The patient was admitted to The Training School in 1910 with a "mental age," according to the Binet-Simon scale of 7 years. She was backward in walking and talking, and in early childhood had crying spells and night terrors. As she grew older the family noticed that she was very touchy and easily irritated to the point of screaming and tearing her clothes when crossed in any way. Her assets and interests corresponded to those of a child of 7 years. She is fond of playing with dolls and toys, looking at picture books, dabbling with crayons, and has been trained to do a few simple things about the house. The patient was referred to the examiner because of certain tantrum-like episodes which have stood out since her admission as a great point of differentiation between her and the ordinary feeble-minded individual of her mental age. These attacks come on an average of once in 6 weeks, although she has been as long as 9 months without one. They are frequently associated with gifts or visits from her family. They often come in the morning after the patient has been called for breakfast or is having her hair combed, or perhaps has been asked to pick up scattered playthings. The onset is sudden; the patient screams, kicks, bites, strikes and spits at attendants and others around her. She never uses profane or vulgar language, but sobs loudly that she hates everybody and wishes they were dead. If unrestrained she tears her clothing, stamps her feet, over-turns furniture and destroys anything within reach. The attacks last, on an average, 2 hours, following which she is aggressively penitent and affectionate. It has been found that a change of surroundings such as moving from one cottage to another, will abort these outbursts for periods of several months at a time. The entrance of some unfamiliar person, such as a doctor or the superintendent, will stop an attack instantly.

Mental Status.—When first seen the patient was at the height of one of these episodes, but no sooner did she hear that the physician was on the way up to her room, than she quieted down immediately, so that when the examiner arrived the patient was in the penitent, sobbing stage. She told everything she had done, threw her arms around the attendant's neck, kissed her and begged to be forgiven. She would give no explanation, except: "I guess the devil got into me, he makes me act this way sometimes. I was very naughty, wasn't I?" When seen a week later the patient

remembered all the circumstances of the previous attack, and cooperated to the best of her ability in discussing the matter. She described her mood as "happy except when I am cross." She said she knew exactly what she was doing during the attack and could stop it if she wanted to. (How do you feel?) "Sometimes I feel like this (patient takes her hand and slaps the air). I do sometimes too. I hit one of the girls in the dining-room when I got mad the other day." (How do these mad spells come?) "I don't know. I wish I did." (Are you afraid of anything when you have them?) "No, I am not afraid of anything but thunder and lightning." (What do these spells mean to you?) "It's a sort of hatred that comes over me. It's bad and wrong." (Can you stop them?) "Yes, if I wanted to." (Why don't you do it?) "I think I will every time and then when it comes I just don't stop them but let go. I am never going to be bad again."

Discussion.—The nature of the behavior, the periodicity of the outbursts are suggestive of the so-called epileptic equivalent. On the other hand, the patient has a complete realization of what she does and says during an attack, and accurate memory for its details afterwards. Her own mood description and post-tantrum penitence remind one of the temper storms of a spoiled child expressed with the vigor and combativeness of an adult body. It is hard to say how much she is able to control these outbreaks. It is interesting to note that the patient says "I could stop if I wanted to" and promises "to try hard and never do it again"; also that the entrance of a new face, or a change of surroundings, either checks an attack almost instantly if she is in the midst of one, or wards off such explosions for weeks and even as long as 6 to 9 months at a time. Whether this is brought about by distracting her attention from herself, or by virtue of the introduction of a new and unfamiliar element of control, it is impossible to state. One would like to have a fuller record of the patient's constitutional make-up and early environment, and more details of her habits of reaction since admission to the school, in order to study this matter adequately from the standpoint of etiology and readjustment.

M. N., æt. 23. Male.

The patient was admitted to The Training School in 1907, with a mental age of 9 years, according to the Binet-Simon scale. As to his past history he seemed normal until 3 years, except for backwardness in talking. His parents state that he was always easily startled by noises and seemed timid. He was a poor sleeper, afraid of the dark, and had nervous spells at night in which he would wake up and want to be reassured that no one was going to hurt him. His record since admission to The Training School has been

that of a faithful and willing worker. He has been trained to do good garden work, showing judgment in planting as to the depth of seeds, etc. He is childishly fond of fairy tales, likes pictures, and draws fairly well. The patient was referred for psychopathological examination because of crying spells and outbursts of temper on the slightest provocation. Frequently at night he becomes panic-stricken, so that the matron of the cottage has to quiet his imaginary fears by turning on the light in his dormitory and reassuring him.

Mental Examination.—The patient impressed one as having a frank, open face and manner of address. His replies were prompt, to the point, and accompanied by no evidence of embarrassment. His manners were pleasant and agreeable. He was willing to discuss his emotional outbursts, saying that he has always been easily frightened by sudden noises, and that his panicky states at night were usually inspired by ghost stories, or fears that somebody was under his bed. He said that when the room grew dark and the boys started to tease him he became so worked up that he often fancied that voices were whispering to him. His heart beat faster, cold perspiration broke out over him and he could not be comforted until reassured by careful search that no one was in the dormitory under his bed. He associated his outbursts of irritability and "flying all to pieces" with the delaying of letters from his mother. He spoke with a great deal of feeling of his father who had died since the patient had entered The Training School, saying, "I will show you his picture if you will come to my room." He seemed to realize his lack of control when letters did not come on time, saying that he got so mad he could tear his mother's picture to pieces. The patient could not understand, why, with his strong body, he could not get out and support his mother instead of being an expense to her. He said that at times he brooded over this fact until he burst out crying and then the boys teased him and he got mad.

Discussion.—The patient impresses one as an individual with poor affective control. His "scarey spells" come at night, are in relation to ghost-story teasing by the boys and represent acute panic states which subside quickly with reassurance. It will be remembered that as a child he was afraid of the dark and had "nervous spells" at night. His "moodiness" seems to have a definite causal relation to his home longing, and his behavior at such times in reaction to disappointment and feelings of maternal neglect is an outburst of rage expressed with all the vigor of a husky body of 22 years. Considering the patient in the light of the data we have on him thus far, one would say that he presents a problem of temperamental idiosyncracies in the feeble-minded individual, rather than a psychotic process.

O. P., æt. 27. Male.

The patient was admitted to The Training School in 1912, showing a mental age of 7 years, according to the Binet-Simon scale. He has been definitely hard of hearing since scarlet fever in childhood. Perhaps this accounts in part for the seclusiveness and unsocial tendencies which are described by his parents as always characteristic of the patient. They also state that ever since they could remember the patient has displayed a mania for washing his body and clothing, particularly before and after voiding. Ever since admission to The Training School this impulsive washing has constituted such a problem in his management, that it was necessary to hide the soap from him and to watch him constantly to see that he did not wash even his bed clothes every day. For the last year or two he has not shown this habit as much as formerly. He was referred for examination partly because of this washing mania, and partly because of his variations in mood. At times he seems elated to the point of singing and displaying a great deal of push and go. This phase is usually followed by a "sullen spell" in which he has been so violent as to break windows, and on one occasion he drew a knife at another boy. At work he is described as thorough, attentive, quick and trustworthy, but he gets along best on jobs where he is by himself.

Mental Examination.—There was nothing particularly striking in the patient's general behavior. His deafness is quite marked and probably accounts for some of the misunderstandings which he has with those about him. Nothing could be gathered from the patient as to the basis of his washing habit; he would not speak of the matter voluntarily, and admitted recorded statements about it with embarrassment. (How do you feel?) "I feel happy most of the time." (And other times?) "Well I get mad; I ain't like I used to be." (Why do you get mad?) "The boys tease me all the time." (About what?) (At this point the patient became obviously embarrassed, blushed, fingered his hat, wriggled in his chair and in spite of many approaches to this subject would give no other cause for the teasing except "a lot of things.") (Do you ever have nervous spells?) "Yes, I get excited and worked up when there is a lot of people around. As long as I get jobs by myself I am all right." (Are you afraid of anything?) "Just things that everybody would be afraid of. I am always afraid I will walk on snakes in the woods. I wouldn't want to go on a long road by myself after dark, and sometimes when I am walking in the daytime and hear a dog running after me I get scared and want to run away." (Do you ever feel you must do certain things?) (Patient confused and uneasy again.) "I used to—don't wash any more." (What thing inside you makes you want to do this?) "I don't know, I guess it's a habit." (Have you ever felt that things around you were not clean?) "No." Further questioning along the line of the dirt phobia failed to bring out any substitutive material.

Discussion.—The patient's careful avoidance of his obsessions during an interview, in which he talked freely of other troubles,

and his shamefaced, sheepish admission of the various recorded facts brought to his attention are doubtless the reaction to a great deal of teasing on this subject, and to its treatment as a bad habit rather than as a matter to understand and explain. One feels that if it were possible to get him to talk frankly, he would be able to tell us much about the fears and impulses which are at the bottom of his washing performances. His sensitiveness and tendency to quarrel with those about him are probably more or less a product of his deafness, by virtue of which he hears only snatches of talk, and builds suspicions and misinterpretations upon these fragments. The deafness and washing obsession contribute equally and unconsciously to setting him apart from the other boys; of this isolation, self-inflicted though it is in part, he is doubtless very conscious and perhaps resentful.

In considering the psychopathological findings described above, one is struck at once by the variety of reactions which these patients display. This fact is particularly impressive if one has been accustomed to think of patients with constitutional mental defect as having to belong in one of two air-tight compartments: either in that of feeble-mindedness, which contains the idiot, the imbecile and the moron with set behavioristic capabilities and stereotyped adaptive mechanisms somewhat arbitrarily standardized; or in the compartment of "feeble-mindedness *plus* insanity" which contains any and all aberrations from the behavior typical of the patients in the first compartment. One cannot but infer from even these few recorded observations that in this branch of psychiatry also, in spite of the sound and tangible help to individualistic study offered by the Binet-Simon test, we have spent more time in consideration of feeble-mindedness as a disease in general than in a study of the facts presented by each individual patient. Obviously, the existence of temperamental idiosyncracies showing so many links in common with the ordinary variations in behavior found in the child who is not mentally defective, necessitates some attention to the individual personality if we are really to do justice to our feeble-minded patients. Inquiries along such lines are not merely of etiological interest as matters for research, but can also be made of practical help to teachers and all others wrestling with the problem of the care and training of

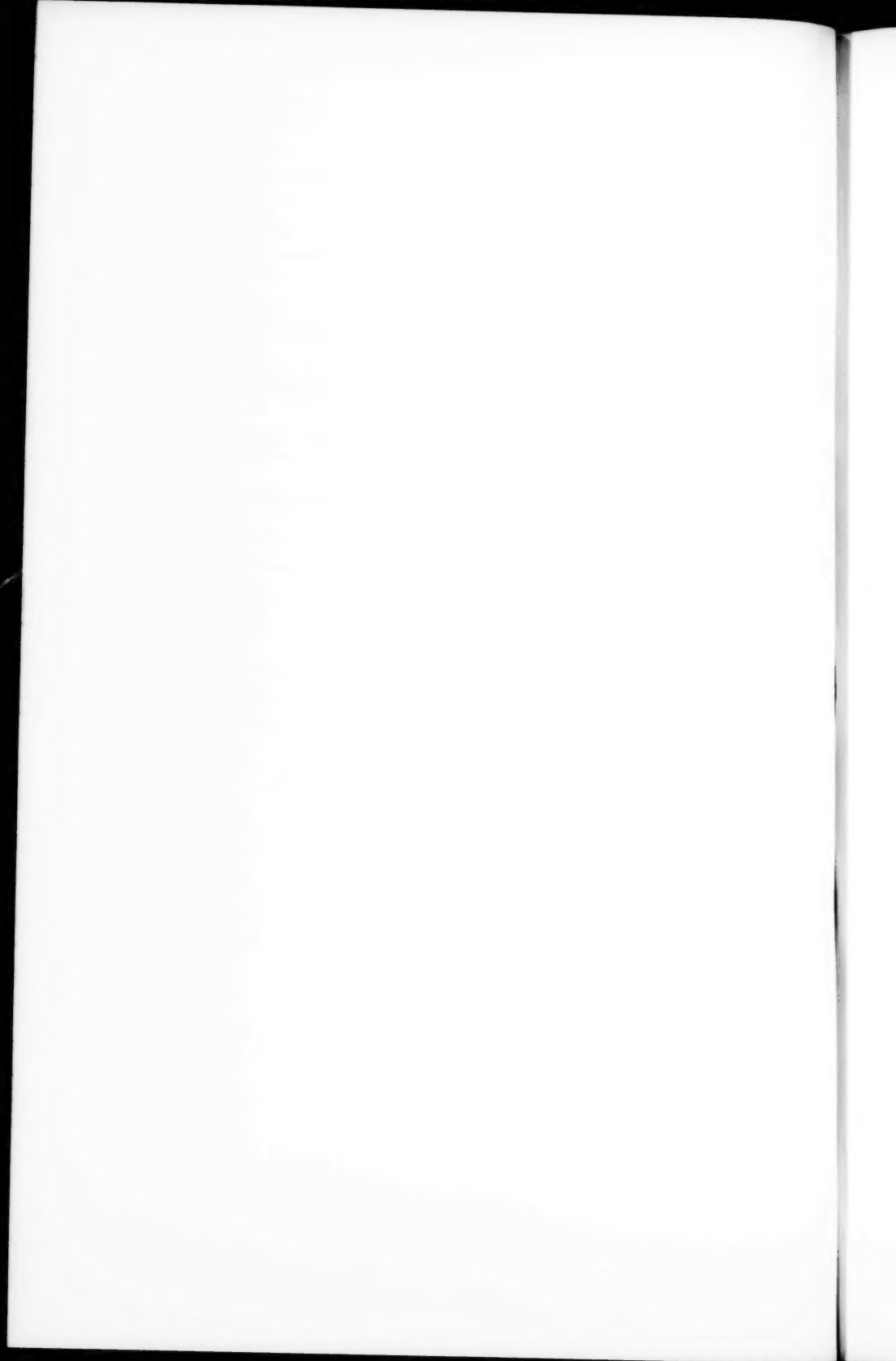
the mentally defective. Physicians dealing with these cases should certainly have psychopathological experience and training.

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THE PROBLEM OF PULMONARY TUBERCULOSIS IN A PSYCHIATRIC HOSPITAL.

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Whatever our opinion may be regarding the relationship of pulmonary tuberculosis to the various psychoses, whether we believe that pulmonary tuberculosis in some instances is the cause or the result, either entirely or in part, of the psychosis, or that it is an entirely independent condition—whether, as White¹ suggests, “tuberculosis might be defined as a failure in the sublimation of respiratory libido,” the causes of which could only be determined if the unconscious mind of the patient were known,—we all agree that pulmonary tuberculosis is and will remain quite a problem in every hospital for the mentally ill.

Tuberculosis does not confer any immunity against the development of a psychosis, nor does the presence of a psychosis confer immunity against tuberculosis. Of the vast number of humanity afflicted with pulmonary tuberculosis, some will develop a psychosis, and of the equally great number of the mentally ill, some will develop pulmonary tuberculosis. The hospital for the mentally ill will, therefore, be called upon to admit patients in whom pulmonary tuberculosis is present upon their admission to the hospital, and, also, to care for those who develop the disease after a greater or lesser period of stay in the institution, but who were apparently free from it upon admission. While it is quite evident that it is the duty of every hospital to cure as many cases of either class as possible, using all the modern means known to the medical world in combating this disease, the far greater problem is the prevention of the spread of the disease

* This hospital was known until recent years as the Government Hospital for the Insane.

among the non-tubercular population, and the discussion of the problem in this paper therefore will be mainly with that object in view. On superficial consideration of this problem, it may lend itself to an apparently simple solution. It would seem as though all that would be necessary is that every psychiatric hospital should have a proper building, specially adapted for the purpose, where all patients known to be tubercular could be segregated. Practically, however, because of the special nature of the disease, the problem presented is by no means a simple one.

Pulmonary tuberculosis is a rather chronic disease, extending often for a period of 15, 20, or more years. The original affection usually takes place during childhood, and the disease as seen in the adult is generally the reactivated process of childhood days. Though due to a specific micro-organism, the actual development of the disease and its progress depend upon so many other factors, as heredity, susceptibility, state of general resistance of the body, environment, and mental state of the individual, that the germ itself takes a place of secondary importance in the etiology and progress of the disease. The human body shows a great resistance to the disease, and even after definite infection takes place the body is able to check the progress and arrest the pathological process begun. However, while one lung or a portion thereof may successfully arrest the disease process, the other lung, or another portion of the same lung, may eventually succumb thereto.

The balance may, at times, be a very fine one. At times, it may require very little effort to raise the general resistance of the body in order to successfully arrest even a quite extensive disease process; while, at other times, the general resistance may be so low that, once the disease took root, no extraneous efforts could save the body from disintegration. The lowering of the bodily resistance does not depend upon any one specific factor, but anything that causes a rapid drain upon the energy of the individual may lead to the same result. It matters not, apparently, whether it be overwork or dissipation, impure air or mental strain, such as worry or fear.

In treating tuberculosis, we therefore must consider the individual as a whole, and his various reactions to internal and external stimuli.

With this more or less theoretical conception in mind, we shall proceed to point out the practical side of the problem.

Efforts to prevent the spread of pulmonary tuberculosis must be begun at the time of the building of the institution. It should be located preferably on an elevation away from the city limits, and should be constructed so as to have the maximum available amount of sunshine, light and fresh air at all times. The general architecture should not be depressive, and the institution should be so constructed that, while the patients could be successfully kept from eloping, their movements should not be confined to the limits of a ward, no matter how clean and pleasant the ward may be.

Large porches, or specially enclosed parts of the hospital grounds, should be used for all the ambulant patients. Most hospitals built in recent years provide necessary and proper hygienic surroundings in making the plans for the building. However, after the place is built, and after several years, the capacity of the institution is gradually increased, and the floor space originally allotted for ten beds, on the basis of normal hygienic surroundings, serves later on for 15 or more beds, so that the hospital originally built according to sound hygienic principle frequently becomes an unhygienic place. Ventilation should depend as much as possible on windows and transoms, the windows should come down as low as possible and reaching the ceiling. The food must be wholesome and more varied. The majority of modern institutions provide ample food for the patients, but they all usually sin in the lack of variety. Again, more individual attention should be paid to the patient. In some of the institutions all the patients eat in one big dining-room, and though a number of nurses and attendants are present, they are there chiefly to prevent any accident and to maintain general order, but they pay little attention to the quantity of food and manner in which it is eaten by the patient.

It is, of course, evident that the indifferent, self-satisfied hebephrenic type of *præcox* case, who has reached a certain level of adjustment, has merged into an apathetic and lazy state, and who increases in width, perhaps, at the expense of brain-matter, needs less nourishment than the paranoid type who has not reached any level of adjustment, and who faces a tremendous

conflict, who is hallucinated, and who is wasting a lot of bodily energy ; or, the manic-depressive case during his stage of excitement or depression.

While loss of weight is no cause of pulmonary tuberculosis, nor is it specially peculiar to it, it is, nevertheless, one of the most constant symptoms of this disease, and any patient showing this tendency should be carefully observed before tuberculosis is ruled out.

Fresh air: This is usually a problem in winter time. Most of the larger institutions are not adequately heated for most cold weather, and there is a tendency to conserve the heat of the room at the expense of the fresh air. In cold weather, especially at night, the patient should be kept warm by additional blankets, and not by keeping out the fresh air because it happens to be cold air.

As to the methods of segregation, and the management of those cases already segregated, it may be of value to briefly review the way this problem is being handled by most of the institutions, and point out some of the fallacies of such a management. Most of the institutions for the mentally ill have some provision for segregation of the known tubercular cases, which suggests that they all agree that pulmonary tuberculosis is quite a problem, though a somewhat unwelcome one ; however, most of the institutions do not go beyond that. When the patient is *definitely* diagnosed as suffering from pulmonary tuberculosis he is transferred to that department, where he usually remains until the time of death. The reason for it is that the diagnosis is only made either when a positive sputum is obtained, when the patient has a hemorrhage, runs a very high fever, or becomes very emaciated, though emaciation is not considered a very serious symptom, since the mentally ill are prone to considerable wasting. A diagnosis, because of the physical signs, is rarely made.

In visiting recently a large Eastern institution, I was struck by the fact that all their tubercular cases were bed-ridden, though segregated in a large tent. Considering the fact that it takes about three years for the average victim of active tuberculosis to require bed treatment, it becomes evident that those patients were in their far advanced stage.

It is, of course, quite fallacious to have special provisions, such as cottages, tents, etc., for patients *dying* from tuberculosis.

When a tubercular patient has to remain in bed all the time, he is beyond hope, and while in such condition is much less of a danger to spread the disease among the other inmates than when he was an ambulant patient, coughing and expectorating all over the ward, or being transferred from one ward to another. The reasons for this deplorable fact are many, but they are chiefly the neglecting of the physical side of the patient and lack of knowledge on the part of the members of the medical staffs of the physical signs indicating pulmonary tuberculosis.

Ochsner,² in discussing the relative value of five diagnostic procedures in 400 consecutive cases investigated by group-study method of pulmonary tuberculosis, comes to the conclusion that the physical examination gives the most reliable information, often requiring an hour for the examination of one chest. A carefully obtained history, he considers the next important procedure. As to sputum, he states that once in 10 times it is positive, and too often this pathologic conclusion gives the attending physician a feeling of false security that the case is a negative one.

Most of the tuberculosis workers will agree with the above conclusions, but in the institutions for the mentally ill the order is reversed. They rarely transfer a case to the tubercular department unless the sputum is found to be positive, and though much has been written on this subject, the fallacy of which is apparent, it is still being strongly adhered to.

The history as obtained from the patient is often unreliable, and very seldom an effort is made to elicit the truth of it.

The physical examination is usually the last procedure, performed more or less to ease one's conscience, or as a matter of form, like the examination of the senses of smell and taste in the performance of the neurological part of the routine physical examination.

In most of the hospitals, the physical examination of the newly arrived patient is relegated to the younger members of the staff, who are lacking in skill. Those who have had any experience in a tuberculosis sanatorium are not surprised to hear of cases in the far advanced stages, with definite cavity formation, referred to by "experienced" physicians as "incipient" or "suspicious" cases. I have spoken to many physicians engaged in large institutions who frankly confessed that they are unable to interpret

the physical signs of a chest elicited by them. If we are really desirous of reducing the occurrence of tuberculosis to its possible minimum and cure or help to arrest the disease in those already victims of it, whether the disease was present at the time of admission or developed in a patient while a resident of the institution, we must attack the problem in a systematic manner.

Every institution should have a certain number of beds for tubercular cases in specially constructed buildings. It is impossible to state an arbitrary number of beds with any degree of accuracy, but about thirty (30) beds per one thousand (1000) population would be usually sufficient.

The modified and much improved Loomis shack, as adopted by the Saint Elizabeth's Hospital, is most admirably adapted for such purpose, and I cannot recommend it too highly. In addition to such tubercular cottages, a large ward, surrounded by porches, should be reserved for suspicious cases who do not cough nor expectorate and hence they are no danger to the other patients and may be kept there for a certain period of time while the diagnosis is for some reason unclear. This ward may be properly called the "Preventorium."

The tubercular department proper should be conducted, not as serving the purpose of a death-house, but as affording the best surroundings for arresting or curing those suffering from tuberculosis, while at the same time serving the purpose of segregation of all those who are a danger to the non-tubercular population of the institution.

A patient once definitely diagnosed as suffering from *active* tuberculosis should be transferred to one of the tubercular cottages. It should not, however, be forgotten that a tubercular process may become quiescent, arrested, or even cured; and no one should, therefore, remain in the tubercular cottage forever, but should be transferred back to the general wards, thus always making room for open and active cases who are in need of treatment, and who are a source of danger to the non-tubercular patients. It may be a good plan, in many cases, to transfer quiescent and arrested cases first to the Preventorium, and after being there for several months, depending upon the symptoms manifested, they either may be sent to the general ward or back to the tubercular cottages, as conditions may indicate.

The constant and proper transfer of patients from the general wards to the Preventorium, then to the cottages, and vice versa, would bring up the efficiency of the tubercular department to the highest possible point.

The management of the Preventorium and the tubercular cottages should be under the charge of a physician, specially trained in the diagnosis and treatment of this disease, but where this is for some reason impracticable or unobtainable the management of this department should be entrusted to a member of the staff who is best fitted for such work and who will evince an interest therein. While it may be frequently advisable to transfer members of the staff from one department to another, this department should not be disturbed in this respect.

All patients in the Preventorium should have a careful chest-examination at least once a month and the findings carefully noted on special chest-charts. They should be weighed every week. Temperature, pulse and respiration should be noted twice daily, preferably at 8 a. m. and 4 p. m. The presence of cough and expectoration should be carefully noted. Sputum may be frequently sent to the laboratory for examination. As soon as a definite diagnosis is made, and the case is that of "open" tuberculosis, the patient should be transferred to the tubercular cottage.

A certain routine should be followed in the Preventorium and the cottages. All patients in these two departments should be given additional nourishment in the form of milk and eggs at certain fixed hours, twice or three times daily, two or three hours after each meal, but not at the time of the meal. Remembering that rest is one of the chief curative measures against tuberculosis, they should be made to rest as much as possible. Patients should not be allowed to do much walking, nor should they be allowed to do any strenuous work. Any patient whose temperature reaches 100, or whose pulse is above 100, even though the temperature be normal, should remain in bed until above have remained normal for a week or longer, unless above disturbances were due to some gastro-intestinal or other known condition.

Reference has frequently been made to active and inactive cases, or opened and closed tuberculosis. In the proper management of tubercular cases, a clear conception of the above two

conditions is quite essential, or a great deal of energy on the part of the institution and the patient may be wasted.

Bearing in mind the great importance of a careful physical examination, let us assume that signs of a definite tubercular lesion, such as increased tactile fremitus, impaired resonance, increased vocal fremitus, broncho-vesicular, or even bronchial, breathing over a localized area were discovered. This would only mean that the patient is tubercular, but would not necessarily mean that the lesion is a recent one or an active one. A lesion which has become quiescent, arrested, and even cured, will still give physical signs. Of the physical signs, the presence of râles is the only sign which, in a measure, indicates whether the disease is active or not. A healed lesion shows no râles. An arrested lesion may show the presence of a few residual crepitant or sub-crepitant râles. The presence, however, of any great quantity of râles, which become increased after the patient is made to cough, is a strong evidence that the disease is active in a greater or lesser degree. The symptoms, however, are of more importance. The following is the order of their importance:

1. *Fever*.—Any case showing a definite lesion, but whose temperature while the patient is up and about remains normal indicates that the lesion is not very active. The morning temperature is quite important. 95 or 97 in the morning is not normal.

2. *Rapid Pulse*.—An increase in rate is a very frequent sign of an active lesion, and is frequently present when fever is absent. If a carefully counted pulse, recorded twice daily while patient is up and about, shows no appreciable increase in rate, the lesion is probably an inactive one.

3. *Loss of Weight*.—Loss of weight, though a constant symptom of pulmonary tuberculosis, may appear late in the disease, and non-tubercular patients suffering from any psychosis may show great loss of weight. However, in patients showing physical signs of a tubercular lesion, but whose weight is normal or above normal, it may be considered as an evidence that the disease is not very active.

4. *Cough*.—Cough is considered by some authorities on tuberculosis as the most constant symptom of this disease, and some go so far as to say, "No cough—no tuberculosis." Its sig-

nificance is, in my opinion, greatly exaggerated. It may be absent while the disease is progressive, and a hacking cough may be present, though the disease is quiescent, arrested or cured.

In the *præcox* cases, especially the catatonic group, cough is often the very latest symptom to appear. However, a patient who is up and about, and showing a tubercular lesion, but who does not cough, may be considered as showing an inactive lesion.

5. *Expectoration*.—This is a more important sign than cough, and is often present when there is apparently no cough. Presence of expectoration by itself is of no especial significance, as it may be due to a chronic bronchitis, asthma, etc. However, in the absence of expectoration, the catatonic *præcox* cases being excepted, the lesion may be considered as an inactive one. Like in all other conditions, the presence or absence of one symptom should be less relied upon than the presence or absence of an entire group of symptoms. Any patient, then, sent to a tubercular cottage, but who after three, four, or more months does not show the above indicated symptoms, or the symptoms disappear, may be properly considered as an inactive or arrested case and sent back to the Preventorium, and if there is no recurrence of symptoms he may be sent back to the general ward. In the presence of the above symptoms, where the proper physical examination cannot be performed because of lack of coöperation on the part of the patient, or his negativism, such a patient should be considered tubercular unless another condition can be definitely established accounting for above symptoms.

Special attention should be paid to the dementia *præcox* group of cases, especially the catatonic type. My own studies,³ and those of others, of this group would tend to show that this group of mental cases is especially vulnerable to pulmonary tuberculosis. Many symptoms are absent until late, and their negativism and failure to coöperate render the diagnosis of these cases especially difficult. In their desire to withdraw from reality, they try to perceive of themselves as dead. They, therefore, refuse to speak, to eat, etc. They immobilize their chests, doing as little breathing as possible, thus furnishing a good medium for any tubercle bacilli which may be present. It is, of course, an established fact that the tubercle bacillus thrives best where there is less fresh air. On this basis is the frequency of apical lesions explained. The

low state of general vitality, that these patients are usually in, accounts for the absence of fever, as the body is not strong enough to put up a fight, and hence there is no reaction.

Such cases should be specially watched and frequently sent to the Preventorium where they could be given more attention. This is especially important, since this very type of cases has a better chance to recover from the psychosis, and, of course, we should try to save them from tuberculosis.

The proper management, however, of the tubercular department alone, no matter how efficiently conducted, will not solve the problem of pulmonary tuberculosis in a large institution. A great deal of attention must be paid to the general ward, and unless the coöperation of the various physicians-in-charge, of the other departments, is enlisted, very little will be accomplished. Like the family physician on the outside, the physicians of the various departments are the ones who come into contact with the patients at a stage when they can be helped most towards curing the disease, when their removal to the tubercular department is specially desirable, since, at that time, they are the greatest source of danger, so far as spreading the disease among the non-tubercular population is concerned; and so, from the standpoint of prevention alone, it becomes our duty to diagnose the cases of tuberculosis as early as possible. Any physician in charge of a patient for a period of four or five years, and who transfers that patient to the tubercular department three or four months before his death, has been neglecting his duties, and he lays the institution open to severe criticism. What would a psychiatrist say, if, in a general hospital, patients suffering from paresis were diagnosed three or four months before death?

The early diagnosis of pulmonary tuberculosis by the various physicians in a psychiatric hospital is, of course, not an easy matter. In most of the larger hospitals, each physician must look after such a number of patients that to demand of them careful individual attention to every patient would be unreasonable, and such a performance on their part would be impossible. When we consider that the majority of the patients in each department are usually quiet and are only in need of custodial care, it becomes quite evident that a patient can develop most any chronic disease that may escape the physician's attention. Again, the mental con-

dition of the patient is often such that even when observed, because no subjective symptoms nor a history can be obtained from him and because of his failure to coöperate in the performance of a physical examination of the chest, which is so essential in the case of pulmonary tuberculosis, a proper diagnosis becomes an impossibility.

But while there are many obstacles and difficulties to be met with in attacking this problem, by adopting certain routine measures many cases will be diagnosed which otherwise would have remained unobserved. The following rules should be observed:

1. More attention must be paid in performing the initial physical examination of every patient admitted to the hospital. It is so easy to say, "Respiratory system negative."

2. The weight of every patient upon admission should be carefully noted.

3. It should be the duty of every nurse or attendant to call the physician's attention to any patient who shows any definite loss of flesh. Such patients should be frequently weighed, and a persistent loss of weight should make one suspect pulmonary tuberculosis. This applies especially to the dementia præcox group of cases.

4. The presence of cough or expectoration, no matter how slight, if continued for a period longer than three or four weeks, should be brought to the special attention of the physician-in-charge.

5. Not all patients are inaccessible. Most of them, at some time or other, are able to give a good and dependable history. Special inquiry should be made as to attacks of pleurisy, dry or with effusion, and any patient giving a history of either should be considered tubercular, though, of course, not necessarily suffering from an active or open lesion, and not requiring any special treatment in the absence of any other special indications. A history of atypical attacks of typhoid fever, "touches" as they are called, is important, as they usually prove to be exacerbations of tubercular lesions. Blood-streaked sputum, or any hemorrhage from the lungs, no matter how slight, is always suggestive of pulmonary tuberculosis. A history of anal fistula is another suggestive sign of pulmonary tuberculosis.

6. By observing the points mentioned above, many patients will be brought to the attention of the physician who would otherwise have escaped his particular notice. However, the diagnosis of pulmonary tuberculosis to be definite will have to be made as a result of a physical examination of the patient's chest. While we cannot demand of a physician-in-charge, of mentally ill patients, to have the skill and experience necessary to make a diagnosis of incipient tuberculosis by means of physical signs alone, no well-defined case of moderately advanced tuberculosis should escape his attention, "moderately advanced" meaning a case showing an infiltration of one lobe or part of a lobe, or of both apices, with a moderate amount of moist râles. Most pulmonary tuberculous cases are not diagnosed, not because of "not knowing," but because of "not looking." No one, no matter how expert, can perform an intelligent chest examination in 10 or 15 minutes, unless the patient is in the far advanced stage, when no chest examination is necessary. Unbuttoning the patient's shirt while he has his coat on and placing the stethoscope here and there in front of the patient's chest, or percussing the chest in an unsystematic manner, is worse than useless. The following procedure in performing a physical examination of the chest will be found helpful:

Strip the patient to the waist and perform a complete physical examination, using the following methods:⁴

Inspection.—Look for any retractions or depressions, especially above or below clavicles; note any bulging at the bases; watch the patient's breathing; note if one side is lagging. Is the breathing deep? Shallow? Rhythmical? or interrupted? Always compare any finding with the opposite side.

Palpation.—Elicit tactile fremitus all over the chest. A definite increase of tactile fremitus over a localized area is suggestive of tuberculosis. A diminution or absence of tactile fremitus would suggest fluid or a thickened pleura.

Percussion.—This is a very important method. Percuss the chest in a systematic way. Start on one side from above downward, or from below upward, as preferred by some. Then go over the other side. Then compare suspicious areas of one side with symmetrical areas on the other side, and with normal areas on the same side. Do this, first, anteriorly, then posteriorly, and,

in a similar way, percuss each axilla. Definite impairment of resonance, no matter how slight, over any localized area, where a normal note should be present, when elicited after comparing same with a symmetrical area on the other side of the chest, is quite suggestive of a tubercular process.

Auscultation.—The most important method. Go over the chest systematically, as outlined under "Percussion." First listen to spoken voice, while patient says "ninety-nine" or "one, two, three," then listen to the whispered voice. An increase or decrease of the vocal fremitus has the same significance as the tactile fremitus.

Listen to the breathing. Observe the following:

(a) Character of breathing, vesicular, vesiculo-bronchial, broncho-vesicular, bronchial, etc. Note whether the breathing is smooth, even, or interrupted and jerky, whether clear or distant.

(b) Pay special attention to the ratio of time between inspiration and expiration. Normally, expiration, as heard, is very short, and occupies one-third of the time of inspiration. When expiration equals inspiration, in point of time, it is pathological.

(c) Listen to the breathing while patient breathes quietly or what is normal to him. You may fail to hear any breathing at all at some areas, while at others it may be rough and loud as compared with the breathing over the rest of the chest. Continuing the auscultation in the same methodical manner, ask the patient to breathe deeply, first slowly and then faster. At times it is desirable to ask the patient to breathe with his mouth open. Some patients are naturally poor breathers, and their breathing must be varied in order to elicit signs present. Localized areas of abnormal breathing are strongly indicative of tuberculosis.

(d) Listen very carefully for râles, paying special attention to any area or areas where abnormal signs were elicited by any of the above-mentioned methods. Râles are quite often not elicited upon ordinary, and even deep, breathing, but that does not exclude their presence.

Ask the patient to give a light cough at the end of expiration, following it at once with a deep inspiration, when râles will quite often be elicited when otherwise absent.

Râles, be they dry, crackling, crepitant, sub-crepitant, etc., when present over localized areas in one or both lungs while the rest of

lung tissue is free from them, are almost, by themselves, pathognomonic of pulmonary tuberculosis. When elicited over an established tubercular area, they often indicate the degree of activity of the process.

(e) Pleural friction, elicited with or without cough, unaccompanied by pain, while, by itself, suggesting an old pleural condition, should not be disregarded for reasons mentioned above, and, also, because it often obscures other signs present, such as rough breathing, râles, etc. Such cases should be looked upon as actively tubercular, unless after a more or less prolonged observation of the patient, with repeated physical and laboratory examinations, no other lesions are found, and the patient is free from any suggestive or objective symptoms.

CONCLUSIONS.

The proper management of the tubercular department, as outlined above, together with the coöperation of the entire medical staff, would reduce the danger from the spread of this disease, and the occurrence of new cases, to a minimum, and would effect cures, or apparent cures, in many cases that otherwise progress to a hopeless stage entirely unobserved.

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THE PSYCHOLOGIC TREATMENT OF RETARDED DEPRESSIONS.*

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It is unfortunate that practically during the last decade only has any consistent or methodical effort been made to treat the benign psychoses on the basis of their psychogenesis. Even now I fear these mental disorders are in the vast majority of instances treated by physiotherapy of baths, exercise and occupations, leaving the large domain of mental therapy *per se* to the chance attention of friends or sympathetic attendants and nurses. It is not that a somatic approach to these psychoses is to be deprecated, but no one will deny that the individual as a whole is not properly considered until a mental therapy in a more specific manner is also instituted. One may contend that in the last analysis the benign psychoses are organic; nevertheless another may retort that the mental symptoms themselves are as truly organic and treatment of them is as surely a somato-therapeutic approach to the problem as considering the infections and disturbances of metabolism that may be found therein. However this may be, as psychiatrists we should hold that nothing less than the most inclusive therapy for handling the benign psychoses should be our united aim in this special field. In view of the fact that our treatment of the retarded depressions, especially in private practice, has had such a *laissez-faire* attitude attached to it, for several years I have given special attention to some cases of this type, first, to see if we may not make the recovery from individual attacks sounder, and secondly, to discover a possible manner of preventing recurrences of such episodes in these cyclothymic individuals. Inasmuch as I have already reported fully upon a series of cases of retarded depressions treated by mental analysis, a brief summary digest of the results in some of these cases at this time may be given. A complete detailed report of the same will be published elsewhere. In addition to the usual approved physiotherapy of baths, diet, occupation, recreation and the like, I employed a modified psychoanalytic reconstruction therapy.

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CASE I. The first case handled by this method was that of a married woman who had passed the climacteric and who had two periodic depressive attacks yearly since her twenty-fourth year. The attacks were those of simple retarded depressions. Intensive treatment for several months was undertaken. In spite of the incompleteness of the analysis and the age of the patient, she has had no subsequent attacks for a period of over eight years. Furthermore she has been unusually free from any of the interval symptoms.

CASE II was that of a middle-aged widow who also had passed the climacteric. She had had several recurrent periodic retarded depressions. She had short periods of depression every five or six months for 15 years. Since a brief and incomplete course of treatment she has had no more depressions—a period of over five years' freedom from any attacks.

CASE III was that of an unmarried man in the middle thirties who had had several attacks of retarded depressions in a space of 13 years. He has been entirely well for over five years. In the usual order of his psychosis a subsequent attack might have been expected within two years.

CASE IV was that of a married woman who had passed the climacteric. She had her first attack of retarded depression at 22 years of age at the death of her first child. The attack lasted a year. Since that time she had had recurrent attacks nearly every year lasting several months each time. The analytic treatment was given for the greater part of a year. For the past three years she has had but slight vestigial symptoms but has had no actual retarded depressions.

CASE V, a married woman now in the late twenties, had her first attack at 17 years. There were but slight symptoms of depression without retardation for a few months at that time. It followed an unfortunate love affair. Her first pronounced manic attack followed her first childbirth. She has had several severe manic-depressive attacks with scarcely a stable or free interval between complete attacks. She often had to be restrained and twice attempted suicide. Following a short but intense manic attack she was removed from a sanatorium and given a six months' course of analytic treatment during the depressive phase of her disorder. The results in this case have been extremely satisfactory; she has remained entirely free from attacks or even the slight though unmistakable vestigial symptoms for two years. She has passed through her second childbirth naturally. After a most intensive scrutiny of her mental life, all agree that she has not been so normal as she is at present for 10 years or since she began her pronounced manic-depressive career.

CASE VI is that of an unmarried woman of late middle life who had had a circular type of disorder for 10 or 15 years. For a few years before she was given a six months' course of treatment, the regular alternation of excitement and depression had been sharp and of the classic type. The treatment was given at the end of a depression and through an entire excitement period. The patient was mildly hypomanic throughout the treatment. It is interesting to note in this case that a distinct paranoid trend was soon analyzed away and has not returned. The patient remains mildly hypomanic with clear insight and with excellent power and capacity

for work. She has now successfully passed two periods of depressions and is at this report practically without vestigial symptoms. There has been a long series of other and similar cases treated, but too short a period has passed to make one certain of the real or superadded advantages of analysis over older and more common methods in vogue for the care of such cases. For instance, a man of 43 years, in his second marriage finds he is "really married" for the first time, in that his present wife fulfills the longed-for attentions of his mother who died several years ago. He came with a history of many recurrent retarded depressions followed by mild elations since his first "marriage of convenience." It was really the death of his mother and his present wife's serious illness at the same time that brought on his last retarded depression. It was obvious from his symptoms and dreams at the beginning of the analytic treatment that the retarded depression was already lifting. This analysis made the rate of recovery about twice as rapid as that experienced in previous attacks. After several treatments he became quite free from his depression and was mildly elated, as is usual following his depressions. Unfortunately, as is common, he then saw no reason for further treatment. As soon as the depression disappeared, it was interesting to note the great improvement which the marked cardiorenal disease underwent. He had this latter physical disorder for years. Another case was that of a young unmarried man of 29, who had a depressive make-up. There were several in the family of the same type. An uncle of this young man in his seventh retarded depression was relieved in a few weeks following a short course of analysis, and he insisted that his nephew should follow the same treatment. It was obvious from clinical symptoms that the young man had nearly reached the end of his depression; however, after a preliminary analysis he was released almost immediately of his remaining symptoms. He promised faithfully to return for complete analysis but, again, as is usual under such circumstances, he never did.

From my experience in treating a score of cases by intensive mental analysis I would say that the ideal type of case for this method of therapy is an individual who is young and who has suffered from as few attacks as possible. Inasmuch as the analysis is often very painful to such retarded depressants, the strictly analytic treatment must be for short periods, often for half an hour only. The analysis of the conscious and foreconscious life had best be considered first, then should follow a complete dream analysis. If there has been an actual manic excitement in the cyclothymic, the spontaneous productions obtained during the elation furnish an almost ideal material for consideration, as these may be considered, at least for practical purposes, as direct emanations from the unconscious. The depressive ideas themselves may be analyzed, but these are often so confused and distorted that

dream analysis, as in the strict neuroses, is the best method to arrive at the real conflicts. By keeping sharp watch of the dream content one can usually judge whether or not the analysis is being pushed too rapidly; that is, if it is too fast, stress and suicidal symbols begin to present themselves as resistance to the treatment. Only one of my patients feebly attempted a suicidal act.

As might be expected, the transference is extreme in analyzing these depressants, but this need concern one but little, as the normal, or the hypomanic, state will quickly remove it. The retarded depressant rarely or never leans upon the physician as the neurotic may after incomplete analysis. It is perhaps unfortunate that severe depressants are not analyzable and that not many even in their mild hypomanic states can be treated in this manner. The beginning or the ending of a severe depressive period are the most accessible states for treatment. The latter part of the depressive episode is possibly preferable, as one then has the whole historical present to work upon. Sooner or later, however, the whole life of a case must be gone into minutely if the treatment is to be fully successful. In no case have I failed to find Hoch's general principles of the mechanisms for retarded depressions which he has laid down in his "Study of the Benign Psychoses." *

In conclusion I would reiterate that an intensive analysis should be made in every carefully selected case of retarded depressions encountered in intra- and extra-mural practice. I feel convinced that by so doing many such individuals will make a sounder recovery from the specific attack and recurrences in the after-life will often be avoided. Physicians in sanatoriums and in private practice are particularly urged to try this method in the milder types of the disorder, which often masquerades under such designations as benign depressions, neurasthenias, and the like. Finally, I hope state hospital physicians will undertake this analytic plan more extensively in their severer cases, especially so soon as convalescence is well established. I am sure the extra-mural life of these depressants after discharge will be the better for such treatment.

* Hoch, Johns Hopkins Hospital Bulletin, May, 1915. For those who may be unacquainted with his views, the original paper may be consulted, or a summary digest of it may be found in my second paper upon retarded depressions, "Some Therapeutic Considerations of Periodic Mental Depressions," Med. Record, Feb. 9, 1918.

A CRITICAL REVIEW OF THE PATHOGENESIS OF
DEMENTIA PRÆCOX, WITH A DISCUSSION
OF THE RELATION OF PSYCHO-
ANALYTIC PRINCIPLES.*

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The absence of any material advance in the elucidation of the problem of the pathogenesis of dementia præcox is discouraging. This statement does not hold good if one is satisfied with the psychological explanations advanced. Nevertheless, the psychologist, who is also a student of pathology, anatomy and physiology, will find it hard to be perfectly content with the various psychobiological explanations given for the precipitation and continuation of the psychosis which we know as dementia præcox. The importance of clearing up the problem of the cause of this disease cannot be too emphatically stressed. Centering about it are numerous related problems concerning difficult and abnormal mental states which will be solved by a satisfactory clearing up of the dementia præcox situation. I refer particularly to hysteria, various compulsion—and psycho-neuroses, some types of alcoholic psychoses and other toxic mental states in which manic-depressive insanity may be included. The difficulty of beginning an investigation into the pathogenesis of dementia præcox is readily realized when we stop to think that within this classification are usually placed a number of widely different mental and related physical reactions, which necessitate subdividing the great group into eight or nine subgroups, all more or less indefinite in their clinical manifestations. Few of these subgroups have definite pathological or clinical criteria which can serve as a basis for diagnosis. No specific serological, bacteriological or other laboratory tests can aid us in placing any given mental reaction in the group of dementia præcox or in any of its subgroups. Post-mortem examinations also fail to establish absolute diagnostic criteria, so that we are necessarily driven to the application of certain clinical standards for the diagnosis of dementia præcox. In order to

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begin from a definite premise, it is necessary for the purposes of this discussion to state what it is that we understand as dementia præcox. The definition offered by Meyer¹³ is advanced. This includes "those types of defect and deterioration which show the existence or the development of fundamental discrepancies between thought and reaction, defects of interest and affectivity with oddities; dreamy, fantastic or hysteroid or psychasthenoid reactions, with a feeling of being forced, of peculiar unnatural interference with thought, frequently with paranoid, catatonic or scattered tantrums or episodes."

The main points, therefore, which require stressing in order to obtain a conception of what is meant by dementia præcox are three: First, the discrepancy which is so characteristic between the thought processes and the emotional and volitional reactions of the individual; second, the defects in the fields of interest and affect, and third, the feeling of being influenced in the performance of acts or thought processes. Any one of these symptoms or any combination of them are absolutely essential to the diagnosis of dementia præcox. The character of the mental or physical reactions will determine whether the case should be called one of the paranoid, catatonic, schizophrenic, hebephrenic or paraphrenic type. Some deterioration, particularly of the will, affect and interest, must be present in every case aside from the delusional trends and hallucinatory episodes. It can be readily seen that these considerations are a matter of personal observation, deduction and evaluation on the part of the individual psychiatrist. Therefore, they cannot serve as absolute criteria. Admitting this fact, nevertheless, it is not helpful in the elucidation of this problem to refuse to recognize dementia præcox as a clinical and pathological entity entirely. This the psychoanalysts of various schools have seemed to do. I have searched in vain through the writings of Freud, Jung, Brill, White, Wells and others for any attempt at clinical classification of their observations in the so-called functional psychoses. The terms dementia præcox, hysteria, psychoneurosis, psychosis, neurosis, etc., are used with no attempt at definite conceptions for any of them. It is not my intention to discredit the psychological investigation of these problems, but surely the teachings of medicine in other fields where progress has been made by empirical grouping of symptom complexes should not be disregarded in psychiatry. It is true

that many things have been placed in the classification with dementia præcox that should not be there but this is no reason to widen the breach any further by clouding our conceptions of this disease entirely.

Perhaps it has been because of this difficulty of finding a common ground upon which the clinician and anatomist on the one hand and the psychologist on the other can meet that so little has been done to bring about a real advance in an understanding of this psychosis. It is characteristic of this to find that in a discussion of the pathogenesis of dementia præcox, there are two groups, the views of whose members must be given unquestioned weight and authority but who take diametrically opposed stands in this matter, some of them allowing for the possibility of no middle ground. In order to arrive at an understanding as to what should be the attitude of psychiatrists towards the various schools of psycho-analytic endeavor in the treatment of this disease, it seems important that those who adhere to the theory that dementia præcox is primarily an organic disease and the adherents to the dogma that it is primarily a distortion and perversion of the personality of the individual, the organic changes being secondary, should be brought to the realization of the fact that neither one of them may be right. It seems important that all fair-minded men should be willing to start in the investigation of this problem without preconceived notions. Of late years, the anatomical work done in the pathology of this disease has certainly gained very little attention in this country. This matter was recently referred to by the writer in a discussion of this question which appeared in the *Neurological Bulletin* of Columbia University (Vol. 1, No. 3, p. 106, March, 1918). I take the liberty of briefly quoting from the article mentioned so that we may be placed in the proper frame of mind towards this subject:

Meyer dismisses the neuro-pathological evidence in dementia præcox as being meager and refers particularly to the work of Kleist. He says, "The isolated facts of the frontocerebellar disorders, tremors, reflex alterations, dermatographia, seborrhœa, and the eye symptoms appear like elements in the general process but not like helps for an explanation." Referring to the histological data, chemical findings and the work of correlation of the clinical symptoms in dementia præcox with the organic changes found in the brain, the author dismisses these as being merely incidental or due to defective oxidation or possibly the consequence instead of the cause of the symptoms. Meyer emphasizes the psychobiological

viewpoint, ascribing the difficulty in this condition to habit deteriorations and tantrums which, he says, are pathologically unfavorable to the maintenance of a normal mental balance. He speaks of complexes, habit conflicts and all the other psycho-analytic mechanisms as the essential causative factors. The symptoms of the disease, he says, are due to peculiar attempts which have been made at balance and reconstruction. He admits, however, that undoubtedly a large number of cases are "beyond complete analysis and understanding."

Jelliffe⁷ as an exponent of the view just presented by Meyer says:

I freely admit that we are still much at sea in this matter and am fully prepared to follow Meyer in part in a more functional interpretation of certain of the dementia præcox reactions.

In attempting to recognize a fundamental personality, he says:

I am directly opposed to a too dogmatic pathological interpretation. Our pathological findings may represent atrophies of unused association tracts which have resulted from the, so to speak, petrification of bad habits of mental adjustment.

Taken alone, this may appear as a definite statement of a mental attitude but in the same article from which this is quoted he also says:

So that to the more striking mental signs are added physical signs of almost as definite a character as those met with in paresis. The clinical pictures are bound to begin in a slightly different manner, according to the anatomical localization of the processes. The course will vary by reason of the same factors of variability in contact with the pathological alteration and the general end level will be reached largely as is paresis by the more or less general diffusion of the processes in the areas of special predilection.

From which we can see that this author is certainly not clear in his own mind as to the genesis of the symptomatology of dementia præcox, nor is he prepared to give the psychobiological interpretation the place of prime importance in the production of the symptoms of this disease.

Hoch⁸ perhaps takes the most decided stand of any of these three exponents of the functional theory of dementia præcox. In the same monograph with Jelliffe and White, he says:

While these findings, upon which rests the claim that dementia præcox is an organic disorder in the same sense as is general paresis, cannot be neglected and represent a most important field for research, there is another set of data furnished by an analysis of the constitutional factors in these cases, of the development of the symptoms—data which would

seem to show that, granted all the findings of an anatomical and, perhaps, chemical nature, dementia præcox is after all not a condition which can be placed side by side with the plainly organic diseases, such as general paralysis.

The last-mentioned author is perhaps influenced in his opinion by his studies of the personality in dementia præcox, I do not wish to convey the impression that studies of this kind are not important for the understanding of the psychoses, but it may be possible that too much stress has been laid upon the presence of defects of personality as an actual causative factor of dementia præcox. The part which the individual's personality plays in this psychosis cannot be disregarded. Nevertheless, one must be cautious in assigning to this one factor the unquestioned responsibility for the production of the disease. The character of the mental reactions may be influenced by the person's make-up, which is nothing more than the sum total of the individual's experiences. Character anomalies may, therefore, determine the type of delusional trends and the content of the hallucinations. About this there can be very little question.

But it may be possible that the precipitation of these reactions, together with the entire thought content of the psychosis, is secondary and incidental to the organic changes which occur throughout the body and particularly in the brain. What is meant can probably be best brought out by reference to certain observations recently made in a personality study of 36 cases of paresis published in the *Journal of the American Medical Association* (February 16, 1918, Vol. 70, pp. 434-439), in which we were able to suggest the great part that the personality plays in the character of the psychotic reactions in paresis. The conclusion which we reached from this study was that any one of several peculiar abnormal or neurotic types of personality existing in the syphilitic individual was liable to determine the nature of the parietic psychotic reaction. Paresis seemed to be capable for our purposes of being divided into two great groups. In one, not a small group, can be placed those cases characterized by rapidly increasing organic dementia and dilapidation of person and intellect without a psychotic reaction of definite type; and a second, a larger group, in whom the actual evidences of brain destruction, as expressed by the profound mental deterioration, were not at all marked especially at first, but in whom there existed a definite

psychosis the nature of which might be either classed as paranoid, manic, depressive, euphoric or expansive. The first group was also characterized by the frequency with which physical signs of paresis were early encountered and were possessed of essentially normal, efficient personalities. Of the second group many went unrecognized until physical signs developed and disclosed the nature of the trouble. In this psychotic group the personalities were definitely abnormal. One of these cases which I reported is particularly instructive along these lines, for in one institution she was diagnosed as a case of dementia præcox, and in another she was considered to be manic-depressive insanity. It was only when physical signs in the pupils and changes in the reflexes made themselves so manifest that they could no longer be overlooked that any other diagnosis was considered. The diagnosis was confirmed by laboratory examinations of the blood and spinal fluid. Instances such as this are met, not only in paresis, but in the psychotic reactions of various types of neuro-syphilis and are highly instructive.

Schneider" has shown that in alcoholic hallucinosis definite "precipitating factors other than the alcohol are present and necessary in its production and are often reproduced in the psychosis." Kirby,' referring also to alcoholic hallucinosis, states "in nearly every case . . . one can establish that a definite emotional stress has immediately preceded the development of the hallucinosis; for instance, a threat, a quarrel, a fight, an arrest, imprisonment or some other annoying occurrence or actual cause for worry or anxiety." And in these cases Kirby remarks, "that the trend and hallucinatory content nearly always contains reference to the particular event which has disturbed the patient just before the outbreak of the psychosis." That this discussion is germane to our problem of dementia præcox can be seen from the fact that both Kraepelin and Bleuler have drawn a fairly definite analogy between the alcoholic hallucinoses and dementia præcox, although recognizing important differences, particularly in the recoverability of the former. Just as in the alcoholic cases the affects and other mental characteristics of the patient are exhibited in the delusional trends and hallucinations, so it may be in dementia præcox. The disturbing factor, whatever it may be, may act in some such manner. Hoch, Kirby and others have definitely

shown the peculiarities of conduct and peculiar mental reactions which long precede the precipitation of the actual psychosis in dementia præcox. No one has, as yet, given us even a suspicion of the nature of the causative agent in the production of dementia præcox, but what occurs in the alcoholic hallucinosis might conceivably occur with some other toxic substance in dementia præcox, the resulting psychosis exhibiting in the delusional trends and hallucinatory content the peculiarities of personality of the individual. The analogy might be drawn even closer, for many cases of alcoholic hallucinosis when they clear up or have a recurrence show definite dementia præcox characteristics. Others, of course, simulate manic-depressive reactions. It is noteworthy that in individuals exhibiting either of these two types the personalities recognized as characteristic of these psychoses have been demonstrated as having been present long before the hallucinosis; but the alcohol and the emotional upset seems to be necessary for the production of the psychosis. The alcohol, therefore, apparently supplies the toxic material which causes quantitative and qualitative changes in the brain cells which are responsible for the symptoms of disordered mental function.

The influence of the personality of the individual in producing the type of psychotic reaction, whether it be in paresis, brain syphilis, chronic alcoholic hallucinosis or dementia præcox, cannot be questioned. That these peculiar personal characteristics are the primary cause of dementia præcox any more than they are the causative factor in these other conditions has not been proved definitely, despite the writings of the gentlemen quoted, or the insistence of other adherents of the psycho-analytic schools led by Freud, Jung and Adler.

It is necessary to call attention to the work of Southard," Nissl," Kleist," Alzheimer," Sioli," Rosanoff," Morse," and others in order to bring the investigator into the question of the pathogenesis of dementia præcox to the realization that there is another than the psychological aspect to the problem. It may be useful to refer briefly to their findings. The clinical findings consist of tremors, changes in the reflexes, dermatographia, seborrhœa and certain eye symptoms. These last have recently been reviewed by Hoch' and Teal."

Hoch's review of the subject of the eye changes in dementia præcox shows, first, that they consist of the absence in a number of cases of the psycho-reflex; that is, dilatation of the pupils associated with mental activity, mental effort, affects, etc., and also in response to various sensory stimuli. Secondly change in the shape of the pupil and sluggishness to light reactions, especially in catatonic stupor. This symptom was called by Westphal catatonic stiffness of the pupil and is essentially a transient loss of light or accommodation reaction with changes in the shape of the pupils.

Abstracting the work of F. Reichmann, Hoch finds that her investigation showed 61 cases of dementia præcox with unusually large pupils and 31 with small pupils; 47 cases showed irregularities; eight cases demonstrated hippus and 30 cases presented anisocoria. She also found that in 215 cases of dementia præcox, ovarian pressure caused dilatation of the pupils 113 times, with some interference in the light reaction 29 times. The abstractor calls attention to the difference in these findings from that of hysteria. In hysteria, pupil dilatation occurs upon ovarian pressure without disturbance of the light reaction.

Teal found in 53 cases of dementia præcox dilated and tortuous veins and contracted arteries in the fundi. He also found various degrees of papilloedema. He examined the fields in 15 cases of recent development. The charts showed concentrically contracted fields for form and color with frequent interlacing of the color fields. This contraction ranged from slightly less than normal to 30 degrees.

A brief reference ought perhaps to be made in passing to the various interesting, though not conclusive, studies in metabolism and in changes of the vegetative nervous system and the glands of internal secretion in this condition.

Of the metabolism studies, that of Ellison L. Ross¹¹ in five cases of dementia præcox is picked as a type. Ross quotes Pighini and Statuti as claiming that the metabolism is not normal in dementia præcox. Finding that various authors dispute this statement, Ross undertook the study in these five cases of the total nitrogen, sulphur, phosphorus, calcium and magnesium metabolism with their partition. Without going into detail as to the methods pursued, we find that he concludes the chief changes were found in metabolism of sulphur. These changes consisted of a diminution

of the amount of total sulphate, including the inorganic sulphate both in acute and chronic cases of dementia præcox, the amount of neutral sulphur excreted being above the normal. He, therefore, confirmed the finding of Pighini. He concludes that in acute cases the patients lose their normal powers of oxidation and suggests that the same condition prevails in the chronic cases. Attention is called also to the fact that the nervous system is richer in sulphate compounds than any other of the tissues of the body and that it has a high rate of metabolism in normal conditions. Other observers, particularly W. Koch, have found that the neutral sulphate is decreased in the brains of dementia præcox patients. It may be possible to refer with some profit also to the studies of various authors of the injection of adrenalin and pilocarpin in cases of dementia præcox. For instance, Neuburger,¹⁰ on the action of adrenalin injection upon the blood pressure, says that in 80 per cent of the cases experimented with the reaction to adrenalin injection is diminished or absent. This refers to the influence on blood pressure and pulse rate. The exceptions to this rule were the paranoid cases studied and the excited cases with remissions who show a more nearly normal reaction to adrenalin. The number of cases studied was 63. As controls, 39 cases of various psychoses, neuroses and psychoneuroses were used.

Walter and Krumbach¹¹ studied 18 cases of dementia præcox, four of which were chronic catatonic conditions, and three, chronic paranoid conditions, the others being more active types. They tested these cases with adrenalin, atropin and pilocarpin and found that only in the cases which showed chronic stuporous states were there any definite influences. In these cases adrenalin, atropin and pilocarpin had no influence on the blood pressure or pulse, and pilocarpin did not produce sweating. In the excited and paranoid conditions, the findings were inconclusive.

Brief reference might also be made (Dercum¹²) to the fact that the thyroid gland has been found enlarged in many cases of dementia præcox by various authors and that the body weight is generally below normal in this condition.

Alzheimer¹³ definitely states that he is convinced that dementia præcox is an organic disease of the brain and he is inclined to regard the anatomical changes as definite. These changes consist of lesions in the second and third layers of the cortex characterized by sclerotic nerve cells, infiltration of cells with lymphoid sub-

stance, disappearance of nerve elements, gliosis and the appearance of amœboid glia cells. Alzheimer points out these findings were particularly marked in the small cell layers of the cortex. Upon these findings, Kraepelin¹² explains the preservation of memory and acquired knowledge on the theory that these have their seat in the deeper layers of the cortex. To the second and third cortical layers which are affected in this disease, Kraepelin ascribes the function of the liberation or translation of perceptions into concepts, of sensations into feelings and of impulses into activity of the will. Such an interpretation, if found to be based on fact, would exactly explain the symptomatology of dementia præcox.

Southard's¹³ work, calling attention to the satellitosis and macroscopic areas of palpable gliosis with microgyria and visible atrophy and the microscopic evidences of sclerotic changes in nerve cells in 89 per cent of the cases examined is too well known to be more than mentioned.

Sioli¹⁴ found in every one of 20 cases of undoubted dementia præcox destruction of nerve tissue and disarrangement of the normal layer formation of cortex cells, degenerative products in the perivascular and lymph spaces and amœboid cells, together with gliosis in the white matter and in the deep cortex layers.

The findings of Rosanoff,¹⁵ which led him to make the unequivocal statement that mental deterioration in dementia præcox goes hand in hand with brain atrophy, are also so well known that they need no more than be mentioned.

Because of the possibility that some organic basis may be found for the most striking, though usually late, symptom of dementia præcox, the work of Morse¹⁶ is interesting. The dissociation between the retained intellectual functions and the emotional deterioration has a suggested explanation in her findings. Her cases died sufficiently young to make it possible to exclude the ordinary senile and arteriosclerotic changes found in brains at autopsy. The neuroglia in the optic thalami was especially investigated. Seven cases of other mental disorders were used as controls, including two cases of arteriosclerosis and senile dementia. She found increase of neuroglia, diffuse and focal, in one or more of the thalamic nuclei, cerebral cortex and in the white matter of the brain. The control cases showed none of these changes excepting the usual peripheral gliosis and perivascular increase in the

senile and arteriosclerosis cases. The writer makes the statement that "thalamic gliosis occurs more frequently in dementia præcox cases than in those with other psychoses who died at about the same age."

What bearing this finding has on the problem of dementia præcox is suggested by analogy with numerous clinical observations made in other conditions, particularly pseudo-bulbar palsy and progressive lenticular degeneration. In these conditions, the lack of emotional control is a prominent symptom and is generally ascribed to involvement of the thalamus and other basal ganglia. This observation has been frequently confirmed by various neurologists. It is not uncommon to see cases of pseudo-bulbar palsy with completely retained mental faculties who laugh immoderately or cry uncontrollably with very little or no stimulus. The similarity between this symptom and the same condition so often met with in dementia præcox makes a striking analogy. The perusal of a review of the subject of pseudo-bulbar palsy by Tilney² is, in this connection, extremely interesting. That the analogy should not be drawn too close, however, must be mentioned, because Tilney found that the lesions in cases of pseudo-bulbar palsy were in a majority of cases multiple and occurred in the projection systems as well as in the basal ganglia or the pons or medullary nuclei. A closer analogy can be drawn in the cases of progressive lenticular degeneration described by Wilson.³ Concerning the matter of the mental symptoms of this disease, Wilson says, "It is a noteworthy fact that some form of mental change or impairment is specifically referred to in at least eight of the twelve cases; its importance, therefore, must not be underestimated." Again on page 447 he says "If the term 'dementia' is to be employed to characterize them (the mental symptoms), it must not be forgotten that this dementia is decidedly limited. . . . It is just in the ordinary dementia of senility and to a less extent in dementia præcox that these symptoms are most common. . . . Hence, the term 'dementia' is really not appropriate." He refers to the absence of disorientation of time, place and person and points out that the dementia present in his cases cannot "be likened to the steady mental involution of senile dementia or of dementia paralytica," and further says that, "it can be readily distinguished from dementia præcox. The mental symptoms are a lowered

capacity for retaining impressions with a constriction of the mental horizon. The powers of perception and recognition are good. There are no delusions or hallucinations." He refers to these patients as being "easily tickled, pleased and amused without insight into their condition, for their cheerfulness is incompatible with knowledge of the seriousness of their illness. . . . The patient seems to be unable to deliberate or pass judgment on what is presented to him." Regarding the involuntary laughter or crying, Wilson says (page 472) that the association of these emotional states with the basal ganglia has long been recognized and he refers to their incidence in double hemiplegia and pseudo-bulbar palsy and even in simple hemiplegia. He further says, "On some occasions at least the patients did not appear to express the emotion which their musculature seemed to express." Despite the fact that Wilson says that these symptoms can readily be distinguished from dementia præcox, their striking similarity to the late symptoms of this disease can readily be appreciated. Reference to this subject may be concluded by drawing attention to the pathology of this condition which seems to be limited to a symmetrically bilateral lenticular degeneration, particularly of the putamen. The globus pallidus, caudate and some of the fibers of the thalamus which come from the corpora striata are often involved. The extent of the involvement of the thalamus appears to be more marked in some cases than in others but these striothalamic fibers regularly show a secondary degeneration.

No attempt is made here to draw an analogy between dementia præcox and affections of the basal ganglia. I simply desire to point out that the anatomical changes which seem to have been found in dementia præcox by Kleist, Nissl, Alzheimer, Southard and Morse are capable of explaining at least some of the characteristic symptoms of dementia præcox. In the presence of such evidence as these investigators present, it would be extremely unwise to take a decided stand for or against the organicity of this disease. Of late years some teachers of psychiatry and many writers on this subject have been too prone to overlook the possibility that psychobiological interpretations and purely psychological explanations of the pathogenesis of this condition may not be the only considerations possible. It seems to me that the writings of Freud, Jung, Adler and others who are responsible for

this state of affairs have retarded investigation of other phases of this important problem. What can be done to bring our attitude of this matter to a state where anatomopathological and physiological investigations will replace dogmatic, empirical, psychological explanations? It seems that the first desideratum is to demonstrate the falsity or the correctness of the stand that the psychoanalytic viewpoint has solved the problem. The best method to determine whether this disease is primarily a functional one and dependent on improper mental habits or perversions of the sex instinct with conflicts arising therefrom is to apply the therapeutic test. If this is true then the principles of psychoanalysis as laid down by the Teutonic writers, if applied to early cases of dementia præcox, should result in cures, or at least prolonged remissions, with more or less perfect adjustment of the individual affected. Just as unhelpful as is the attitude of those who refuse to concede the possibility of a causative influence of the organic findings in the development of this disease is the attitude of those who refuse to give any part in the production of the disease picture to psychobiological influences. Occupational, educational and custodial care have resulted in a discouragingly poor percentage of recovery in dementia præcox. Let us consider giving a free hand to competent persons so that they may practice the principles of psychoanalysis and apply them to sufferers from dementia præcox under supervision in our state hospitals and sanitariums. Before doing this, however, the psychoanalysts should be prepared to investigate these cases in the broadest way, taking into consideration all the available data. They should be prepared to give us information on the part that all the instincts play in the synthesis of dementia præcox, because the true psychoanalyst does not limit himself to a consideration of the sex instinct alone. The matters discussed by Trotter concerning the Herd Instinct and principles of masculinity-femininity and the masculine protest of Adler, together with the broader aspects of the libido and life interest of Jung, and finally the investigations of the sex instinct according to Freud should all play a part in these investigations. If early cases of dementia præcox are referred to psychoanalysts and they are given unlimited opportunity for investigation and attempts at bringing about adjustment, we must then be willing to abide by the results. No one has yet given statistical data of a large number of cases treated by such psychoanalytic methods. It is high time

that this should be done. The suggestion is made that psychoanalysts be given in various parts of the country a number of cases sufficiently large to permit of fruitful observations and that in three, four or five years they be required to publish their data in statistical form for consideration. The cases should be undoubted examples of dementia præcox, presented at staff meetings or after consultation, and standardized for diagnosis according to the conceptions of Meyer, Kraepelin and Tanzi. They should be, as Tanzi " says, " patients who present the fundamental symptom of dementia præcox ; namely, stolidity of conduct." Concerning the diagnosis, Tanzi further says, " that whatever may be the clinical variety to which his malady belongs, the patient suffering from dementia præcox displays the disorder of his intelligence not so much by what he says and thinks as by what he does ; even when he expresses and seemingly thinks something contradictory, absurd or foolish, as often occurs, the unprejudiced observer easily perceives that the patient is not faithfully conveying his own thoughts, but is to all appearances falsifying them purposely, either from ostentation, as a joke, or owing to an involuntary treachery on the part of the volitional function." These disorders of the will and the emotions are the *sine qua non* of dementia præcox.

The views of Kraepelin " on this point may be worthy of attention because psychoanalysts have been too prone to a loose interpretation of what we mean by dementia præcox. Despite the fact that we must admit that dementia præcox has no absolute clinical, pathological or anatomical signs, it is just these mental characteristics which are definite. Kraepelin states that " this peculiar and fundamental want of any strong feeling of the impressions of life, with unimpaired ability to understand and to remember, is really the diagnostic symptom of the disease we have before us." Again on page 26 he says, " We have a state of dementia before us in which the faculty of comprehension and the recollection of knowledge previously acquired are much less affected than the judgment and especially than the emotional impulses and the acts of volition which stand in close relation to those impulses. . . . They are invariable and permanent fundamental features of dementia præcox, accompanying the whole evolution of the disease." These matters, which are clear to every one of us, seem to have es-

caped the psychoanalysts. I have carefully searched the literature and the looseness with which they couple the neuroses, the hysterias, the compulsions with this distinctly different mental state is something which should not be allowed to continue without criticism. If psychoanalysts will accept for experimentation cases showing these mental defects then in all fairness we should allow them a free hand to demonstrate their principles. If, after application of psychoanalytic methods in a considerable number of cases of very early dementia præcox, they fail to disclose their value, it may then be possible that psychiatrists in this country will throw off the shackles that have been impeding progress in the elucidation of this problem and that medical men will return to anatomical and physiological investigations as an aid to its solution. We must have definite scientific data and not beautifully descriptive systems of philosophy from our psychoanalytic friends, if they are to help us in this particular problem.

An instance of how far the pendulum has swung from a consideration of the medical aspects of dementia præcox to the purely psychological can be had by a scrutiny of what appears to be at present the most popular of these psychoanalytic viewpoints. I have reference more particularly to the work of Adler¹ as expressed in his book "The Neurotic Constitution." The number of unconfirmed views and unsupported statements presented by this author as facts cannot be allowed to go unquestioned. Some assertions made in this book are characteristic of a great deal of the psychoanalytic literature and this brief, critical review is undertaken as a check on what we regard as the baneful influence which this particular work has had on the minds of a great many of those interested in psychiatric subjects. Particular reference is made wherever possible to his discussions of dementia præcox.

Referring to the instinct that the child has of obtaining security by striving towards a fixed point where he sees himself greater and stronger, where he finds himself rid of the helplessness of infancy, Adler says (page 53), "The qualities of greatness, power, knowledge and ability are constructed in the image of father, mother, older brother or sister or some hero, etc. These stand like idols of clay and they receive from the imagination of mind the force which afterwards reacts on the psyche which has created them. In so far as the child is able at all times to free himself

from the bonds of his fiction, these artifices of thinking show the only difference from the manner of thinking in paranoid and dementia præcox conditions." The main difference is, therefore, according to this conception, that the normal is able to free himself from his fancies and return quickly to reality, whereas in the case of the psychoses mentioned, this is not possible. But, as Adler says, "there is this similarity of adherence to a fiction in normal persons, neurotics and the insane." On page 76, making reference to the "psychotic individual," Adler takes issue with Freud, whom he says stopped at the point "of discovering the actual or possible sexual formula in these symbols and has not pursued their further elucidation into the dynamic eventuality of the masculine protest of striving upward." His philosophy of the neurotic constitution is thus summarized and consists of what he designates as the guiding line or striving upward manifested by the "masculine protest" in individuals whom he calls somatically inferior. This, in a few words, is his conception.

On page 92, Adler makes the statement that the child (meaning probably the neurotic child) brings forward into consciousness an acute sense of inferiority which is permanent and depends on the presence in such individuals of inferior organs, and that as a result of this consciousness of inferiority, a formula is established by which the neurotic strives to become master of the situation. These attempts at compensation of physical inferiority lead to the symptomatology of the neuroses and psychoses. According to Adler, all the symptoms of these conditions can be explained on the grounds of a more or less conscious striving to hide and over-compensate this inferiority. He says that in the organs which fall below the normal standard are to be seen the more frequent referred somatic complaints. Therefore, it is said that these inferior, neurotic individuals, in order to hide their inferiority, set an unusually high goal which it is never possible for them to attain. On page 95, he says, "Nervousness, by preference, utilizes organic defectiveness, the infantile defects, the sense of ill-health in general on the one hand, for the purpose of securing the ego-consciousness against the requirements of parental authority, usually by means of a stubborn revolt. . . . Indeed, the neurotic individual often seeks minor defects, even brings them about artificially, or assumes dangerous outlooks in order thereby

to justify his neurotic acts and caution." To this fiction which Adler calls the masculine protest he ascribes everything in the neurotic constitution. In differing from the Freudians, he says (page 106), "That a further pursuance of the matter leads irrevocably to a realization of the untenableness of the libido-theory, to a doing away with the sexual etiology and to an understanding of the neurotic sexual conduct as a fiction."

In this way Adler throws a sop to those who object to the predominance of sex in the Freudian theories and explains the sexual conflicts of the neurotic on the theory that they are part of the means by which these individuals obtain the mastery over their environment. According to Adler, therefore, these sex matters are not the causative factor in the development of the neurosis, but are only one of the means used by the neurotic as an aid in making the masculine protest. This twist in the presentation of the sexual side of this question does not prevent the greater part of the pages of this book from being given over to a full discussion of the sex problems which have been much more conclusively and convincingly set forth by Freud and others. When one examines the evidence on which Adler bases his ideas that the neurotics are possessed of inferior organs, we find that he points as confirmation to ulcer of the stomach, appendicitis, cancer, diabetes, liver and gall-bladder disease, as evidences of such inferiority. Why he omitted typhoid fever from this classification it is hard to understand unless one considers that possibly Adler has met and been conquered by the bacillus typhosus. On the same page (122) one finds further evidence of the extravagant lengths to which Adler carries his unconvincing reasoning. He says that a number of neurotic symptoms such as obstipation, colic, asthma, vertigo, vomiting, headache and migraine are symbolic of "a voluntary but unconsciously co-operating activity of anus contraction and abdominal pressure," which are used as an aid by the neurotic for domination. In these individuals Adler says that greed for gold and power are in the foreground of their ideals, which is nothing more or less than a repetition of the ideas of Freud and Jung, who associate these traits with what they call the anal neurotic types.

It is on such flimsy and ephemeral data that Adler builds his conception and it is upon principles such as this that a great many

attempt to explain the development of dementia præcox, various other psychoses and neuroses. It is with an idea of presenting to these individuals and to certain medical psychologists the possibility that they are in error that this paper is primarily written. It is also hoped that we may give them a definite opportunity to prove to us the truth of their data in a scientific way.

Further reference to the work of Adler shows that he regards certain purely mechanical pathological conditions as evidences of inferiority. Particularly important in this regard does Adler place the inguinal hernia (page 145) which we have always understood to be a rather innocuous, mechanically produced condition. The idea that inguinal hernia is an evidence of organic inferiority will certainly be interesting. The idea, however, that individuals possessing this condition have a (fatal) determinant of neurotic manifestations will perhaps be startling. Even more startling than this will be the statement made on page 318, "I have in various instances learned to recognize this connection with epilepsy, sciatica, trigeminal neuralgia. I have proved that these latter conditions were psychogenic in nature and originated whenever strong securities were demanded." In this connection the author also mentions migraine. These conditions, which we have always felt had a pathological foundation, are ascribed by Adler as symbolical, more or less voluntary, aids in the struggle of neurotics against the feeling of being beneath or as a struggle against femininity—or as an expression of the masculine protest.

As against the correlations which Southard, Kleist, Kræpelin, Alzheimer and others have attempted to make between the symptomatology of dementia præcox and the pathological findings, we have Adler's views on the pathogenesis of the delusions, hallucinations, attitudes and other symptoms. On pages 234 and 237 we find this explanation of the origin of delusion and hallucination. Speaking about a patient whose analysis he presents, he says, "The essential part of a psychosis depends upon a dogmatic anticipatory representation of a fear or a wish, which the craving for security offers for the better testimony in a phase of great insecurity, in strong dependence on the fictitious guiding line for the conservation of the ego-consciousness." Explaining the symptom of tearing off the clothes which so many excited patients have, he says (page 237) that they "tear the clothes from the

body as though they would divest themselves of the modesty which they regard as feminine, as though they wished to make a parade of fictitious, large, masculine, genital organs and thus belittle others." On page 266, concerning hallucinations, he says, "Hallucinations as well as dreams are, like other tentatives of the psyche, fitted for finding the way which leads to the maximation or preservation of the ego-consciousness. In it are reflected the faiths, the hopes or the fears of the patient." On the bottom of page 267 he says, "In paranoia and dementia præcox, the emotions leading to the masculine protest disguise themselves in the form of hallucinations and assure the psychotic scheme through their acoustic or visual complement."

If these explanations of the production of delusions and hallucinations are true, it is of the utmost importance that this fact be demonstrated to the satisfaction of all psychiatrists. If they are found to be true upon investigation, then a good deal of the work which is being done in neuropathology may just as well be stopped. These matters must not be settled by acquiescence in unsupported statements such as these. Nowhere in this book does Adler give any idea of the results of his psychoanalytic treatment. It is essential that a sharp therapeutic test be made of these matters and that careful records be published, not only of the methods followed but also of the results obtained. The fallacy or the truth of statements like these must be settled soon if psychiatry is to make any progress in solving the problem of dementia præcox. Concerning the symptoms of stereotypy and the delusion of grandeur in a catatonic, Adler says (page 276), "Stereotypies were manifested, among other ways, by an occasional upright position of the body and by holding the head high, a motion which I was able to interpret as symbolic, as a phantasy of the erection of the male organ."

Not referring for the moment to the intensely boastful "I" of the author (we are sure many other psychoanalysts are capable of making the same deductions in like cases), I should like to inquire whether everyone is prepared to accept this explanation of stereotypy as against the possibility that it may depend upon changes in the cortex of the cerebellum, the dentate and other cerebellar nuclei and their connections with the basal ganglia, the cerebral cortex, the spinal cord and anterior horn cells.

Of the various psychoanalysts in this country who have been attempting to find a middle ground upon which views such as those expressed by Adler and the views of those who hold to the theory of organicity can meet, William A. White of Washington is probably the most prominent. Dr. White has written the introduction to Adler's book. He dilates in this introduction on the healthy tendency exhibited by Adler in approaching his subject from the organic rather than the functional side. I am afraid that Dr. White will not endorse at least one of Adler's views. In this paper I have deliberately drawn several analogies, particularly one between the characteristic dissociation of the mental with the emotional reactions as it exists in dementia præcox with the same sign exhibited in pseudo-bulbar palsy and other diseases of the basal ganglia. Concerning reasoning by analogy Adler¹ says that it is very important in the development of the neurotic constitution and is a characteristic of the general inferiority of the neurotic psyche. White² says that "reasoning by analogy is not only a legitimate form of reasoning but it is the best of all reasoning." Agreeing with Dr. White are Jung's³ views on this subject. It is only an instance of the danger of accepting without question the views of some exponents of psychoanalysis, that even in the camps of the most prominent of them, such wide differences of opinion are found about so important a point. The entire subject of symbolism on which the whole fabric of psychoanalysis is built is admittedly done by analogic thinking. Yet we are told by Adler that thinking by analogy is a trait of the neurotic, therefore, an inferior psyche.

In conclusion, it is my opinion that a decision of the questions herein discussed must be soon attempted. The only method available is to apply the therapeutic test to the principles laid down by psychoanalysts. On the other hand, we must require carefully kept records and published scientific data with tabulated results. If, after ample opportunity for investigation, they fail to give us this data, we then must regard psychoanalytic principles as they relate to the study of dementia præcox as impossible of application and confine ourselves to anatomical, pathological and physiological investigations as a means of discovering the pathogenesis of dementia præcox.

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THE REHABILITATION IN THE COMMUNITY OF PATIENTS PAROLED FROM INSTITUTIONS FOR THE INSANE.*

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The subject broached by the title of this paper is too vast to be discussed here except in very general terms, but a broad survey may serve to open the topic for further and more specific investigation.

The needs for the return of all recovered patients to life outside the institution are too well known to recount and yet a special word here may not be amiss. The community and the individual are best served by the fullest expression of activity of which the individual is capable. It must be remembered, however, that the ability of the individual to withstand stress is not always easy to estimate. Adequate reaction to a difficult situation for a few days, weeks or months may be followed by excessive oscillation of mood or by the substitution of a false trend of ideas or fantasies for stern reality. Once such disorientation is accomplished the services of the individual are lost to the community probably for considerable time. Obviously it would be better were such case required to meet only situations to which he is able to react repeatedly without mental capitulation. It is most important that this idea be comprehended and one must remember that it is diametrically opposed to the belief rather widely held that everything is possible if only the individual is willing to make the necessary effort.

The fact that a mental disorder has occurred strongly suggests that thereafter there must be a compromise between the efforts of the patient and those of the ordinary individual. The question of degree of compromise necessary in a given case is difficult, but upon it depends the future welfare of the patient and an attempt to solve it must precede the restoration of the patient to life outside the institution.

The ability to answer the question in the preceding paragraph is dependent upon knowledge of the factors which have in the past caused more or less marked mental upset. These are not only the

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unusual stresses to which the patient has been subject; acute or constitutional illness, psychic trauma, etc., but also and even of more importance those habitual tendencies on the part of the patient to react to certain situations in a harmful manner.

The way in which ordinary problems are met is portrayed in the usual behavior of the individual. At times the reaction to certain everyday situations is of a sort which fails to pass the censorship of the social code. In other cases no unusual manifestations are noted until an unusual situation arises, be it the death of a friend, financial upheaval or actual change in structure of the brain. Even in such case it is not the situation which constitutes the immediate need for social supervision, but the behavior under the existing conditions.

In speaking of etiological factors of mental disorders the writer refers to the conditions which cause any of the disturbances of behavior commonly spoken of as insanity. It is easy to refer to etiological factors in general terms but often difficult to say specifically what things should be avoided. Of course, carefully taken anamneses will aid greatly in pointing out probable pitfalls, but occasionally these are difficult to obtain. In such case one must look elsewhere for guidance. The fact that there is doubt as to the sort of problems or situations which may be considered probable factors does not excuse one from making an attempt to outline the activities of a recovered patient. If a patient is placed under the jurisdiction of a department there is no choice but to use the data available in an effort to safeguard him even if interpretation of the data is somewhat open to question. The experience one has had with other cases will be of aid. There is food for thought in the frequency with which cases improved following acute episodes of the *dementia præcox* type of disorder, show an apparent narrowing of interests and a disinclination for any but the more automatic sorts of industry. It may be presumed that this fact has a general application to all disorders based upon a difficulty in adjustment and that it points to the need of caution in returning individuals no longer manifesting acute evidences of mental disorder to active life. If one may surmise that the apparent inclinations of these patients are actually preservative, one may say that the characteristics which are conspicuously absent in the improved *dementia præcox* case, are ones which the patient cannot assume without risk. Among these characteristics are the assumption of

responsibility; a tendency to compete with others to the degree that ordinary individuals compete; and a willingness to submit new ideas, if indeed any are conceived, to public opinion. Obviously no attempt can be made here to define a "complex situation," but perhaps one is justified in saying that the characteristics mentioned in the preceding sentence are some of the earmarks and they may be in evidence not only in industrial activities but also in the family and social life of an individual.

If it may be assumed that the recovered patient should refrain from undertaking great responsibilities and from attempting to compete with the most active the question is presented: What then may he do? Idleness is certainly not advisable, as it would favor reactions not censored by reality. From consideration of the inclinations of the dementia præcox case one learns not only to refrain from placing him in the most complex situations but also that if not roused and stimulated to some extent, progressive disinterest in the environment is very apt to result.

It would be useless to try to specify the type of work all cases should do, hours of employment, home conditions, recreation, etc., which are most favorable for all paroled cases. Each case must be treated as a problem distinct from all others, but the general principles outlined should be kept in mind. The criterion to be used in the estimation of the suitability of a given situation is whether the accomplishments of the individual keep pace with his aims. In so far as can be done by the prescription of certain occupation and recreation and by regulation of stimuli in the matter of home conditions one should try to make the aims of the patient as broad as seems consistent with his continued welfare. This done, he should be watched closely to see if the aims are realized, and if not steps should be taken to simplify them. By "aim" is meant here not simply desire, but the actual assumption of responsibility for certain definite results. A homely illustration may make this somewhat abstract thought clear. If a man desires a fortune but feels no obligation in obtaining it, failure to gratify the desire is not apt to result in mental upset. If he feels obliged to gain a fortune and succeeds, the aim leads to no difficulties; but if instead of success he meets with failure the inability to react adequately to the aim necessitates a readjustment. In one given to subterfuge or in whom unusual oscillations of mood are apt to occur in ordinary

situations such readjustments as those just mentioned are likely to lead to mental disorder. They are the especial stresses of life.

The rehabilitation of patients who have passed through the more acute manifestations of mental disorder must begin in the hospital. From the time the case is received at the institution efforts should be made to obtain information in regard to the make-up of the individual, especially as to the character of the situations faced which led to disturbances of behavior. After the acute disturbance has subsided the work of re-education must be instituted. There is no justification for delay in rehabilitation until the patient is paroled from the institution. It is the duty of the hospital to fit the patient for life outside the institution so far as this is possible by advice, instruction and habit formation. When it has been decided that a patient may be released from the hospital there should be available some organization which properly may be termed an out-patient department to carry out supervision begun in the hospital. This department may quite well be a part of the state hospital, but its scope will differ widely in certain respects from the ordinary work of the institution. It may be said that while the patient himself constitutes the field of endeavor of the hospital, it is the environment of the patient in the world at large which the out-patient department attempts to control and shape. Instead of being the custodian the out-patient department becomes the mentor; and while compromise with the activities of the ordinary citizen still must be considered, the broadened outlook of the patient with consequent multiplications of the reactions changes greatly the aspect of the problem of his welfare. In place of stage-settings entirely subject to the desire of the hospital physician, the out-patient department must make use of the activities and interests of the world at large. The difficulty is not that the activities are too few, but that the capabilities of the patient most frequently precludes anything but the cautious assumption of the ordinary responsibilities of citizenship; and lest the patient attempt too much, the scope of the out-patient department must be such as makes it possible to reach out and keep pace with the patient's activities, even to anticipate them, to mold and to limit the situation to which he must react.

The number of workers which is necessary to carry out the work outlined depends altogether upon the number of paroled

patients in a given district and the size of the area to be covered by the visitors. An organization may be sketched, however, which will cover the necessary activities. There should be included a medical director, an examining division and a social service department, and if desired an occupation bureau may be added as a special branch of the last named.

The medical director shall coordinate and direct the work of the department. Under his guidance each subdivision shall carry on its particular task.

The workers in the examining division must be trained in medicine, especially in psychiatry. It is the business of this department to consult with the paroled patients when the latter make their regular visits to the department. The physician should make the necessary progress notes, advise the patient in regard to his activities and watch closely for evidences that he is finding difficulty in adjusting to the situation. Such evidences might be irritability, abstraction, depression, insomnia, the complaint of pain or distress not founded on organic change, etc. If unusual problems in the life of the patient arise special attention should be given him in an attempt to aid him to weather the storm. There is need for care that acute somatic illness shall not remain undetected and that the progress of chronic disorders, neurological or otherwise, be gauged.

The work of the social service department should include investigation of the home before the patient is paroled, to judge of its fitness as a habitation and of the probabilities of the patient being supplied with ordinary needs of life. The attitude of the others in the home should be learned, and where indicated an attempt should be made to educate the members of the family in regard to an understanding of the disorder through which the patient has passed and of the factors which might cause future attacks. Occasionally it may seem unwise to return the patient to his former home. The social life, recreations and avocations should be scrutinized; in a word, all the interests should be considered with the aim of directing so far as is possible the activities of the patient. This will necessitate talks with the patient and occasional consultation with relatives or friends.

If desired, a special bureau can be formed to obtain employment for the patients and whether this is done or not the occupations

followed need consideration. The experience and preference of the patient must be weighed in the choice of employment, but at times new fields will seem advisable and the preference of the patient may seem unwise. Here the problem is difficult and must be left to the discretion of the department.

Unfortunately the wages are frequently a necessary item and the actual needs for financial aid makes unavoidable occupation which is undesirable. Even in such case there is room for endeavor on the part of the out-patient department. In certain instances it may be advisable to take the employer into confidence and enlist his aid. If the latter knew the condition of the patient he would at least, in many cases, be more willing to transfer the patient to more desirable work when opportunity arose.

Of course the problem of prevention of future attacks is very closely allied to the one of rehabilitation, although it is not embraced by the title of this paper. Perhaps the statement may be made here that the data in regard to onset of past mental disorders and the out-patient department as an organization would be applicable to the problem of prevention as well as to rehabilitation.

Finally there is the question of control of the patient. The solution of this problem will be aided by an understanding between the staff members of the state hospital and the patient, that the parole of the latter will be granted with the understanding that he will visit the out-patient department and abide by the advice tendered there in regard to occupation, etc. This understanding will give the out-patient department a lever with which to gain access into the life of the patient. Such hold is a very poor substitute for real understanding which should be established as rapidly as may be. It is only when a sympathetic contact is accomplished that the stage is reached where advice may be given and accepted which actually results in alteration of viewpoint on the part of the patient. And this is the highest goal of therapy of most of our recoverable insane cases: to aid the patient in arriving at an understanding of his limitations so that he will attempt only the activities to which he may react safely and continuously.

Notes and Comment.

THE WAR AND PSYCHIATRY.—With an abruptness which astounded the careless observer, the world war has come to a pause, let us hope to an end.

From the outset psychiatrists recognized the fact that problems were involved to which in past conflicts too little attention had been given.

So little attention indeed had been paid to the mental examination of the prospective soldier, and so little notice taken of the effects of military drill, campaigning, and fighting upon the nervous system that in many instances the suggestions which were made for a more careful mental examination of men about to be inducted into service were received with marked disfavor.

This country had the advantage of the experience gained in nearly three years of actual warfare, by its allies, before it began to raise and equip an army, and in many things profited thereby. There were nevertheless many officers in the army, particularly in the line, and a few in the medical corps, who looked askance upon the introduction of specialists and special examination, particularly psychiatric, into the routine of army medical work.

The elimination of men from the ranks for mental disorders or defects unless they were so manifest that they were at once recognizable, was, particularly when the authorities were working at a feverish rate to rapidly raise, train and equip a large army, looked upon as a waste of material, and as the result of too great dependence upon the special viewpoint of the examiner.

In a short time, however, a change took place. Officers who complained that too large a percentage of men were rejected, became the advocates of still more rigid examinations when squads of men were returned from over seas, as unfit for even limited service, by reason of mental defect or disorder.

It took time necessarily to select the men to make and formulate methods of making mental examinations. The number of

physicians available for neuropsychiatric work in the army was limited, and if in some instances the wrong men were selected for the work, or men without sufficient force to withstand the demands which were occasionally made for a merely perfunctory examination, it must be remembered that the surgeon general's office and the War Department were confronted by tasks such as had never confronted this or any other country and that the few points for criticism are far outnumbered by those which deserve unstinted praise.

It has not been alone among those already inducted into service that the psychiatrist has been made available and has done work of great value. The authorities have been fortunate in being able to obtain for many of the local draft boards, and for a considerably larger proportion of the medical advisory boards, physicians with psychiatric training and experience to whom all cases whose mental status was questionable were referred. This has resulted in keeping out of the army many drafted men, who, had they been accepted, would have inevitably been found unfit for service.

There are boards, we are informed, who have been able, because of the assistance rendered them, often at great sacrifice by psychiatrists, to point with some pride to the fact that no soldier inducted into the service after having passed their examination has been rejected because of mental disorder.

The field which is still open for psychiatric war work is a large one. The so-called war neuroses, the mental disorders arising from disease and injury incident to service, the mental as well as physical reconstruction work, now actively in progress, all present problems of intense interest and importance.

When the medical history of the war is written it is to be hoped that a competent psychiatrist will, with ample assistance and free access to the records, be one of the many who will necessarily be engaged in the task.

The medical department of the army in pre-war days sent an occasional medical officer from the army medical corps to Washington and perhaps elsewhere for a brief course in practical psychiatry. Surely recent experience has taught that as far as possible every army and navy medical officer should have not only

one, but repeated periods, at intervals, of service in the wards of hospitals for mental disorders.

There are now numerous hospitals whose medical service and laboratory facilities are such that adequate post-graduate training in psychiatry can be furnished to the army medical men, and where such men would receive a hearty welcome.

THE INSTITUTIONAL CARE OF THE INSANE IN THE UNITED STATES AND CANADA.—This work, which was undertaken under the patronage and endorsement of the American Medico-Psychological Association, has been reviewed in the pages of this JOURNAL as the several volumes have appeared.

It comprises four volumes of 497, 997, 880 and 605 pages, respectively, with an index of 45 pages.

The work gives as complete a history as is possible at this time of the care of the insane in the United States and Canada, and of the organization and construction of institutions for the mentally disordered. The review of the proceedings of the Association of Superintendents of American Institutions for the Insane, known for the past 26 years as the American Medico-Psychological Association, presents in a brief compass the history of the progress of psychiatric medicine in America for three-quarters of a century nearly.

The steps taken by different states to care for the indigent insane, the conduct and government of institutions in different communities are all spread before the student of the history of medicine in a wealth of detail which is alluring.

Dr. Hurd and his collaborators have placed the medical profession, and particularly the Medico-Psychological Association, under a great debt to them. The work should be found in every public library and library of reference and especially in the library of every institution for mental disorders in the United States and Canada.

Every known institution at the time the work was written finds mention in these volumes. If in some instances the details are few, it is either owing to the fact that no accurate data were in existence or to the carelessness or indifference of those in charge, in furnishing historical and other material.

There are to our knowledge several hospitals from which no subscriptions for the volumes have been received and many physicians who have not taken the opportunity to subscribe. We urge upon all such the wisdom of at once writing to the Johns Hopkins Press, The Johns Hopkins University, Baltimore, and inclosing an order for the volumes. No institution can afford to be without this valuable historical work; no progressive psychiatrist will fail to have it in his library.

Book Reviews.

Problems of Subnormality. By J. E. WALLACE WALLIN, Yonkers-on-Hudson. (World Book Co., 1917.)

This book of some five hundred pages is a discussion of the problems of subnormality from the standpoints of differential diagnosis and differentiated educational and industrial treatment, beginning with school organization and carried on by the community, city or state according to systems of after-care and supervision outlined by the writer. The opening chapter on "Changing Attitudes Toward the Subnormal" gives an historical résumé, which makes a fitting background for the main thesis.

From the angle of differential diagnosis, or "Who is Feeble-minded," the writer believes that "the fundamental weakness in the organization of special classes in the public schools has been the lack of definiteness in the selection of the candidates for these classes." In support of this premise he brings a formidable amount of data not only from public school reports in various parts of the United States, but also reports from industrial schools, institutions for delinquents, psycho-educational clinics connected with universities, etc., to show that general confusion reigns in these circles as to who is "normal," "retarded," "backward," "borderline," "undetermined" and "feeble-minded." The causes of this deplorable state of affairs are: (1) A too arbitrary use of the Binet-Simon scale as a quantitative standard for determining the intelligence level; (2) The use of this psychological function test by "amateurs." "Large numbers of social and psychological workers are being appointed as 'experts' on feeble-mindedness in the schools, courts, and clinics throughout the country. Unfortunately many of these so-called 'psychologists' are young teachers just out of the normal school; some are grade teachers working with subnormal children, who have learned to give the B.-S. (Binet-Simon) or other tests; some have had a college course, but possess practically no training in scientific research, possess little or no clinical training or experience, and have no technical acquaintance with psychopathic anomalies, although they may have spent a few weeks in an institution and have read some of the texts; some are social workers who are not versed in the technical procedures of any of the psychological or medical sciences but who may have spent some time in an institution and who can work by rule-of-thumb with the B.-S. scale."

As therapeutics for the above, Dr. Wallin would have us always bear in mind that Binet and Simon merely offered "a tentative pedagogical basis

for the preliminary selection of candidates for special classes"; he would also have suspected individuals examined by two different specialists, by "a physician, with clinical experience, not only in the general field of medicine, but in neurology and psychiatry, and a psychologist, with not only a technical acquaintance with all aspects of elementary, industrial, and corrective pedagogy but with adequate clinical experience with the fundamental types and the different grades of mental deficiency, from a slight degree of retardation to profound idiocy."

With an adoption of saner attitudes towards the determination of sub-normal individuals the writer turns attention to organized efforts in the way of public school training and after-guidance. He has again taken great pains to collect data by means of questionnaires and statistical reports as to what is actually being done in different parts of the country in the way of special and ungraded classes in public and industrial schools. By way of criticism he feels that too little attention is paid by school systems to the needs of the individual child especially with reference to vocational guidance and control during the years that follow the child's school life. He recommends: "(1) The making of vocational surveys of employments available in the community which fit the vocational capacities of feeble-minded children but which, at the same time, are not surrounded by social conditions which impose too great a strain on the weak moral natures of the feeble-minded. (2) The placement of children in positions suited to their limitations, and rendering them such assistance and encouragement as will tend to keep them permanently employed. (3) Advising with employers for the purpose of explaining the child's limitations, so that work fitting his level of functioning may be assigned him, and that he may receive more lenient and sympathetic treatment. (4) Protecting the children so far as possible from moral and economic exploitation, and safeguarding them from criminalistic careers when the parents fail adequately so to do."

Although somewhat ponderous in the compass of material and tedious in the wealth of statistical detail, this book rings true in its plea for a more thorough study of the individual child as a whole; for less contention over the nomenclature of the "special child" and more attention to his peculiar needs; for a direction of the child's school years in better harmony with the place he is able to take in the community after leaving school. Those of us who have seen the Binet-Simon scale applied in all innocence and good faith to an outspokenly psychotic adult can forgive Dr. Wallin for the asperity with which he decries the "army of amateurs" who pass on the mental states of individuals merely by following "the rule-of-thumb procedure" involved in the use of this test. Such a frank recognition of the limitations of this and other tests for measuring the intellectual capacity of a human being is as gratifying as it is unique from the pen of a psychologist.

E. L. R.

The Unsound Mind and the Laws: A Presentation of Forensic Psychiatry.

By GEORGE W. JACOBY, M.D., author of *Child Training as an Exact Science*, etc. (New York and London: Funk and Wagnalls Co., 1918.)

The author complains that "most English or American books on forensic psychiatry have a distinct tendency to subordinate the medical viewpoints to the juristic ones, as the latter find their expression in our prevailing laws and judicial decisions," and contrasts the more recent advances in psychiatric medicine with the "conservatism, or rather let us say stagnation, that exists in English and American laws in the same field."

No one who has given any attention to the decisions of courts of law upon points involving the question of responsibility as measured by the mental state of the prisoner, has failed to be struck with the almost supreme importance of legal precedent.

If a court of last resort has a quarter of a century ago rendered a certain decision, that same court to-day, although completely changed in personnel and having the advantage of advanced and more accurate information, hesitates to set aside the previous ruling and establish a new precedent more in consonance with modern ideas.

In forensic psychiatry, the opinions of the judges delivered to the House of Lords in the *McNaughten* case (1843) has with occasional modifications governed the decisions of judges and their instructions to juries. We have to go back less than two hundred years (1723) to find a ruling by Mr. Justice Tracy in *Rex v. Arnold* which reads: "It must be a man that is totally deprived of his understanding and memory, and doth not know more than an infant, a brute, or a wild beast; such a one is never the object of punishment." "All others," the judge continues, "are responsible for their criminal actions whether sane or only partially insane."

In 1812 in the *Bellingham* case we have the first appearance of the ability to distinguish between right or wrong as a test of responsibility before the law.

From this ruling as modified by the opinion of the judges delivered to the House of Lords in the *McNaughten* case, it has been difficult to bring about any departure.

Alienists have recognized both in England and America where the decisions growing out of the *McNaughten* case have governed the courts, the injustice frequently wrought by this ruling, but have been practically powerless in their attempts to influence the courts or the law makers.

Before the case of *Bellingham*, in the trial of *Hadfield* for shooting at the King in Drury Lane Theater (1800), *Ersine* in his plea on behalf of the prisoner urged that delusions concerning the person assaulted or the reasons for such assault, notwithstanding the fact that the prisoner knew the nature and consequences of the act, and that it was contrary to law, was the real test of responsibility. In his argument this learned and eloquent attorney, referring to a case in which a woman who shot a man

who had betrayed and then deserted her, said that had he been on the jury he would have entertained grave doubts and difficulties, for though "she was in a most undoubted and deplorable state of insanity," "she acted upon *facts and circumstances*, which had an *existence*, and which were calculated, upon ordinary principles of human action, to produce the most violent resentment."

Grave and to some minds insurmountable difficulties arise when one attempts to harmonize the medical conceptions of mental alienation, and the legal and judicial definitions of responsibility.

Some years ago Chief Justice Perley, of Vermont, laid down this ruling: "Neither delusion nor knowledge of right and wrong, nor cunning in planning and executing the killing, and escaping or avoiding detection; nor ability to recognize acquaintances, or to labor, or to transact business, or to manage affairs, is, as a matter of law, a test of mental disease; but that all symptoms and all tests of mental disease are purely matters of fact to be determined by the jury."

Under this ruling the presence of medical witnesses in court is unnecessary and the expression of an opinion on the stand as to the sanity or insanity of the prisoner is an assumption of duties and powers which reside alone with the jury.

Dr. Jacoby's book has been written with the apparent hope of interesting judges and lawyers in the viewpoints of modern psychiatry and at the same time awakening in the minds of general practitioners a more intelligent conception of what mental disorder really involves, what the causes are which lead up to the conditions which we group under the general term insanity, and what are their responsibilities both to the patient and the community.

No one whose daily work brings him into contact with cases of mental disorder fails to recognize and deplore the fact that a better knowledge of the symptoms and probable course of even the more common psychoses by the family physician, would in many instances have prevented either a suicide or some infraction more or less serious of the law of the land.

After an introductory chapter there follows an historical retrospect which occupies over thirty pages. This retrospect is interesting, but so many things are of necessity crowded into a small space that several inaccuracies have crept in. For example, on page 41 it is stated that "as early as 1547 a former convent in Bedlam (Ireland) was transformed into an asylum for the insane." The Priory of the Star of Bethlehem was established in 1247 by a gift of Simon Fitz Mary of certain lands without Bishopsgate, London. Here it remained until 1676, when a new and much better hospital was built in Moorfields in London. The insane had been cared for at Bethlehem (Bedlam) from about 1377 and probably in individual cases long before that date. The predecessor of Richard II, Edward III, seized the Priory as an alien corporation, and from some time during the last ten years of his reign it became a hospital and to some extent under the control of the King.

Its charter from Henry VIII was obtained in 1547, the date mentioned by the author, but the hospital, as a place of confinement for the insane, had existed for at least two hundred years prior to that date. The present hospital, "The Bethlehem Royal Hospital," situated in Lambeth Road, London, is the third building in order from the ancient priory of 1247. It was opened in 1815, and the patients, 122 in number, removed from the old building of 1676 on August 24, 1815. It is difficult to understand why the author locates this well-known hospital in Ireland.

One wonders why in the enumeration of those who have contributed to the advance of psychiatry so little notice is found in this historical retrospect of the work of Kraepelin, who has done more probably than any one else in Germany to place forensic psychiatry upon a sound basis; nor is any reference found to Kraepelin's writings in the several pages devoted to the "literature" of forensic psychiatry at the end of the book. This list of the literature of the subject, which comprises five pages, is far from complete. But five American names are mentioned, one being the author. Ordonaux's work, "The Judicial Aspects of Insanity," is apparently unknown to the author, as is a very large amount of material bearing upon his subject, not only in text-books, but in the periodical literature of psychiatry.

Griesinger's name is mentioned, but while Esquirol is credited with the foundation of the first psychiatric clinic in Paris, Griesinger's work in Berlin, where he established the first real psychiatric clinic in Germany, receives no mention, nor the fact that in his well-known work he paid much attention to the medico-legal aspects of insanity. Among English writers, Conolly, the father of the non-restraint system and a forensic expert of no mean order, finds no place in either the historical retrospect nor in the list of those who have contributed to the literature of the subject. Ray's Medical Jurisprudence may be out of date, but certainly the learned author, both as a psychiatrist of distinction in his time and an author of note, deserves at least a passing mention in a work of this kind.

More attention is paid in this section, as well as elsewhere in the book, to sero-diagnosis in insanity than the value of this method as evidence in courts of law will justify. Abderhalden and Fauser have each no doubt contributed much of value to our diagnostic methods, but the results of the tests of the blood of patients after their methods are as yet too uncertain to permit sufficient dependence to be placed upon them to warrant their introduction into the field of forensic psychiatry. Of the Wassermann examination of blood and spinal fluid, much more can be said, and we doubt whether any expert at the present time would feel that he was prepared to give evidence in a case when any doubt existed and particularly in one involving the possibility of paresis who had not made or had made by a competent serologist a Wassermann of both blood and spinal fluid.

The author does not, we think, lay sufficient emphasis upon the necessity of spinal puncture and a chemical microscopic and serologic examination of the fluid in suspected paresis. Indeed we find no reference to any examination of the spinal fluid except the Wassermann test.

In the author's classification it is difficult to determine whether he recognizes manic-depressive insanity in its depressed manifestation as something essentially different from melancholia, but one is led to infer that he does when he says, on page 192, that "in men melancholia occurring before the fiftieth year is rare." The same doubt is true of mania.

The effort of the author to contribute something of value to the subject, "The Unsound Mind and the Law," is a commendable one, and the book will be read with interest by all into whose hands it falls. That very much has been accomplished in solving the very complicated questions involved, we doubt.

The addition to the machinery of our courts of law of trained psychiatrists, as has been done in Chicago and elsewhere, the increasing attention which is being paid to forensic problems at our few psychiatric clinics, and lastly the studies which are being systematically carried on at Sing Sing prison in the author's own state, all of which fail to find notice in the book before us, will, we believe, be of much greater value. As a guide to psychiatry, it is below the standard of many of the recent contributions to the literature of the subject, and as a text-book upon forensic medicine as applied to mental maladies it fails to meet the demand which really exists for such a work. Cavil as we may at the decisions of judges, the quibbles of counsel and uncertainties of juries, the fact remains that the medical profession has sadly neglected an obvious duty and a striking opportunity in its failure to instruct the law as represented by the courts and the law makers. Every law school has a course in medical jurisprudence, as do many medical schools, but the instruction is of a most perfunctory character in many cases. In cities where there are both law and medical schools, the instruction in these subjects might well be combined, and when combined should be intrusted only to specialists of well-established reputation.

Obituary.

WALTER KEMPSTER, M. D.

Dr. Walter Kempster was born in London, England, May 25, 1841. He was the youngest son of Christopher Kempster and Charlotte (Treble) Kempster. Christopher Kempster came to the United States and settled in Syracuse, New York, when Walter was seven years old. The father of Walter was an Abolitionist and an associate of Gerrit Smith and William Lloyd Garrison in the early days of anti-slavery agitation. Christopher Kempster was also active in the Y. M. C. A. in its years of inception. He took an active interest also in prison reform.

At the outbreak of the Civil War, when Walter Kempster was scarcely 20, he enlisted as a private in the 12th New York Volunteers and served from May to November, 1861. He was in camp on the White House grounds at Washington and remembered a visit of Lincoln to the camp, at which time Lincoln spoke to Walter, remarking upon his youthful appearance. After the first engagement, Private Kempster was detailed for hospital duty. He had already interested himself in the reading and study of medicine. After his three months' service, he re-enlisted in the 10th New York Cavalry. He was appointed hospital steward in April, 1862, and became assistant to Surgeon-Major R. W. Pease at Patterson Park Hospital, Baltimore. He assisted in organizing this hospital which at times had over 1200 soldiers in its care. In January, 1863, he rejoined his regiment and was in engagements near Fredericksburg, Virginia. After the battle of Brandy Station, he was commissioned first lieutenant and was present at Gettysburg and in engagements of General Lee's retreat. He was injured at Mine Run; then resigned and continued his medical studies, graduating at Long Island Medical College in June, 1864. After graduation, he entered the army as acting assistant surgeon, was made an executive officer, and was actively engaged in such service till the close of the war.

In 1866-67, Dr. Kempster was medical assistant in the State Asylum for the Feeble-Minded at Syracuse. In the latter year, he received an appointment as assistant physician at the State Hospital for Insane at Utica, New York, where he remained till 1873. The institution at Utica, one of the first and most famous state asylums, then under the direction of Dr. John P. Gray, possessed the first laboratory for the study of brain pathology established in any institution in this country. Dr. Kempster gave much study to the microscopic and macroscopic histo-pathology of the brain. He was also assigned duty as assistant editor of the *AMERICAN JOURNAL OF INSANITY* which was then published at the Utica State Hospital. Dr. Kempster, in the course of his laboratory work, developed a system for photographing and for projection of slides upon a screen and in collaboration with Dr. Gray was the first in this country to show in this manner gross and microscopic appearances of the brain.

In 1873, Dr. Kempster received the appointment of medical superintendent of the Northern State Hospital for the Insane, at Oshkosh, Wisconsin, where he served for 14 years and continued his study and research in minute anatomy of the brain, and conducted experimentation on animals. He also studied the effects of chloral, hyoscyamus and other drugs. In the course of his duty as assistant physician and superintendent, he directed the care of over 11,000 insane persons. He exhibited his microscopic preparations on the screen in 1875 before the Chicago Pathological Society, and at the International Congress, in 1876, showed photomicrographs which attracted much attention. Dr. Kempster administered the new State Hospital at Oshkosh with much success and in a progressive manner, also continuing laboratory research which was in that day a rarity. He records the fact that in 12 years no suicide or violent death occurred in the institution under his care.

In 1891, Dr. Kempster was appointed a member of a congressional commission to investigate conditions of emigration. He visited Europe under instructions to report the circumstances attending emigration to the United States, especially in Russia. The commission encountered opposition in Russia and were allowed but a limited opportunity to see what control and regulation the government exercised. The existence of famine was

another subject of inquiry. A report on the conditions found was published in due time, but was prohibited from circulation in Russia under the despotic rule of the Czar.

In 1892, Dr. Kempster, although offered appointment in charge of Kings County Hospital, New York, declined and was again a member of a congressional expedition to Europe, established for the purpose of investigating the cause of epidemics. He visited Turkey, Palestine and Persia, discovering that no quarantine regulations were observed. As a result to a considerable extent of this report, investigations were made in European ports of embarkation, suspected passengers were detained in Europe with a view of preventing epidemics in the United States. A clean bill of health was required and a marine hospital service placed in control.

In 1894, the mayor of Milwaukee appointed Dr. Kempster as health commissioner. In performing the duties of this office, establishing "civil service" rules and regulating small-pox, he incurred the enmity of one of the city aldermen who opposed the enforcement of quarantine rules in his ward. Resistance was offered by some of the population to the enforcement of quarantine regulations and was encouraged by the above-mentioned alderman. The agents of the health department were mobbed and driven away. A "packed" committee of aldermen investigated the doings of the health commission and after an unfair trial a report was made recommending removal of the commissioner from office. He refused voluntarily to resign and was forcibly ejected from office and another health commissioner put in his place. He brought suit to maintain his rights and was found by the court to have been unjustly and illegally removed. The case was carried to the supreme court of the state, which affirmed the decision of the lower court, and Dr. Kempster was again installed in charge of the health office. He was also awarded full compensation for the whole time during which he had been dispossessed. During Dr. Kempster's service in the city health office, extensive bacteriological studies were made, bakeries and candy factories inspected, water analyzed, smoke nuisance dealt with and the death rate of the city was lowered.

Dr. Kempster was appointed professor of mental diseases in Wisconsin Medical College. He engaged also in literary work,

publishing a study on the alleged insanity of Hamlet; and upon mental epidemics of the Middle Ages. He was frequently in demand because of his military services for Memorial Day addresses. He prepared a history of the cavalry in the Civil War. He was a member of the Loyal Legion, made commander in 1871; also president of the Medical Greek Letter Society, "Alpha Mu Pi Omega."

Dr. Kempster often served as expert witness in cases where insanity was the issue—both civil and criminal cases. With his former chief, Dr. John P. Gray, he was a leading witness for the prosecution in the historical case of Guiteau, slayer of President Garfield, in which Dr. E. C. Spitzka, Dr. W. W. Godding, of the Government Hospital for the Insane, and Dr. J. G. Kiernan took the other side.

During the last years of his life, Dr. Kempster was a severe sufferer from arthritis, but he held to his professional and literary labors even up to the time shortly before his death, which occurred at Milwaukee, August 21, 1918, in his 77th year.

Dr. Kempster's life was one of earnest endeavor after eminence in his profession and in the various positions which he held, and he attained more than ordinary distinction: as a brave soldier and capable medical officer in the Civil War, an able assistant at Utica and medical superintendent of the Northern Wisconsin State Hospital, in both of which latter positions he carried on valuable research work besides discharging the usual executive functions in an able manner. In the foreign congressional missions for which he was chosen, as health commissioner for Milwaukee, as a writer and speaker of ability, and a widely known exponent of the medical jurisprudence of insanity, he enjoyed a high degree of reputation and success. His memory will be cherished by a large circle of friends.

R. D.

DR. GEORGE W. GORRILL.

Dr. George W. Gorrill, superintendent of the Buffalo State Hospital, died of pneumonia following influenza on October 27, 1918.

Dr. Gorrill was born at Mitchell, Perth County, Ontario, Canada, March 13, 1877, and received his preliminary education in his native country, being graduated from the Harriston High

School in June, 1895, and from the Model Training School at Mount Forest, Ontario, in December of that year. The following year he taught in one of the public schools of Ontario.

In December, 1896, Dr. Gorrill came to the United States and took up his residence at Tonawanda, New York.

His medical education was obtained at the Medical Department of the University of Buffalo, from which institution he was graduated in May, 1900. After his graduation he served for one and one-half years as interne at the Hospital of the Sisters of Charity of Buffalo, and then entered the Buffalo State Hospital in a similar capacity.

Dr. Gorrill was a keen observer who possessed unusual ability to retain and to reproduce mental impressions. Whatever he read or heard he stored away in his mind and such information was always easily accessible to him. It is, therefore, not surprising that he made rapid advancement in the state service. After passing through the various grades in the hospital and after having obtained high rank in the civil service competitive examinations he was appointed on March 7, 1911, to the position of first assistant physician at the Buffalo State Hospital, succeeding Dr. Henry P. Frost. This position he held until July 29, 1918, when, following the resignation of Dr. Arthur W. Hurd, he was appointed superintendent of the Buffalo State Hospital. But as a superintendent Dr. Gorrill had little opportunity to show his capacity, for scarcely had two months passed following his appointment when he was stricken with the malady, which later proved to be fatal.

Knowing, therefore, his aims and ideals, one can but conjecture what he might have accomplished had he lived. As a member of the staff, probably no one ever attained, among patients and employees, a degree of popularity greater than that of Dr. Gorrill.

Dr. Gorrill identified himself with various national and local medical societies. He was a member of the American Medical Association, of the State and the County Medical Society, and of the Buffalo Academy of Medicine. He was also an associate member of the American Medico-Psychological Association.

On July 7, 1904, Dr. Gorrill married Miss Josephine Dick, who survives him.

W. W. W.

GEORGE BANEY WOLFF, A. B., M. D.

Dr. George Baney Wolff, assistant physician at the Sheppard and Enoch Pratt Hospital, was shot and almost instantly killed by Dr. Noboru Ishida, a Japanese physician and psychiatrist, who was temporarily doing some medical work at the hospital, on the morning of Saturday, December 21, 1918.

Dr. Wolff was the son of Rev. D. U. Wolff, of Myerstown, Penna. He was born in New Oxford, Penna., on December 10, 1885. He was educated at public and private schools in his preparatory course for college and received the degree of A. B. from Ursinus College, Penna., in 1908, and of M. D. from the medical school of The Johns Hopkins University in 1912.

He came to the Sheppard and Enoch Pratt Hospital as clinical assistant in June, 1912, but was shortly thereafter promoted to the position of assistant physician.

Dr. Wolff was a man of most quiet and unassuming manners, a gentleman by instinct and in action, of pure life and thought, a Christian by training and deliberate choice.

He was a good student, a clear-visioned observer. Approaching each problem with no preconceived ideas, he gave his patients the benefit of careful and conscientious study before announcing his opinion or proceeding upon any course of action.

He was never controversial, but having formed an opinion after deliberate study, it was difficult to move him. His associates soon learned to respect and value his opinions and to find his conclusions commonly correct.

He was most assiduous in his attentions to the sick and fought disease and death with unrelenting vigor.

He very soon became by choice the physician to the various employees of the hospital, and in the recent epidemic of influenza, in addition to increased duty in the hospital wards made necessary by illness among other members of the staff, worked most energetically among the sick employees about the farm and elsewhere. Notwithstanding the fact that several of the patients were seriously ill, some of them with pneumonia, none died.

Among the patients in the hospital he was a general favorite, and numerous letters have been received from former patients, deploring his untimely end and referring to him in terms of warmest affection.

His assailant, Dr. Ishida, when seized and disarmed said he had shot him because he called him a spy, a traitor to Japan and the United States.

There was absolutely no ground for this assertion, or for the statement which was made in some of the daily papers that there was a coolness between the two men and some jealousies.

As far as could be seen the two who had been in more or less intimate contact since January, 1918, and who had been closely associated since August when Dr. Ishida came to live at the hospital, were on terms of perfect amity.

They were seen conversing and laughing together in the evening before the tragedy. Dr. Ishida was arrested immediately following the tragedy and has been confined in jail ever since. At the request of the prosecuting attorney of Baltimore County the court has directed the State Commission in Lunacy to make an inquiry into Dr. Ishida's mental condition. This inquiry has not been concluded.

Dr. Wolff is survived by his father and mother and a sister and brother.

His memory will long be held with tender regard by all connected with the hospital which he so well served, as well as by the large number of patients who came under his kindly and skillful ministrations during the more than six years of his service at the hospital.

He was a member of the American Medico-Psychological Association, of the American Medical Association, The Medical and Chirurgical Faculty of Maryland (the state medical organization), the Maryland Psychiatric Association and the Baltimore County, Md., Medical Society.

AMERICAN JOURNAL OF INSANITY

THE WORK OF PSYCHIATRISTS IN MILITARY CAMPS.*

BY E. STANLEY ABBOT, MAJOR, M. R. C., U. S. A.

INTRODUCTORY.

The primary work of the military camp is to make soldiers. To it are sent the young men of suitable age, after a more or less thorough sorting process. This first sieve is a rather coarse one, and many men get through who cannot be made into good soldiers, *i. e.*, men who cannot only fight, but endure the hardships, strains, and fatigue incident to modern warfare. The man who, barring wounds, cannot last through is a liability, not an asset, and must be eliminated.

Part of the medical work of the army is to eliminate these men while they are still in the training camps. This makes for a more efficient army, through its having fewer weaklings; it makes for economy for the government, through eliminating the cost of maintaining and training them in the first place, later the cost of taking care of them when they break down, and later still the cost of pensioning them; and, finally, it is more just to the men themselves by not subjecting them to strains which they cannot stand. Experts in various fields are called upon to make surveys of the men for this purpose—cardiovascular, tubercular, orthopedic, and neuropsychiatric.

Some men, though having defects—as flat feet, hernia, irritable heart, etc.—can be made into good soldiers. But the number of men with nervous or mental disease who can be made into serviceable soldiers is so small that in drawing a rough sketch of the work of psychiatrists these need not be considered.

* Read at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

In gatherings of men of the size of our military camps—from 20,000 to 40,000—it is inevitable that illness should arise. For the care of those who become sick there are not only the regimental infirmaries, but also the base hospitals. It is at the latter that the nervous and mental cases can best be cared for, and where part of the work of the psychiatrist lies.

Because the military camps exist to train men for fighting they must eliminate as rapidly as possible those who cannot be so trained. The army must keep its decks clear of incumbrances, of the inefficient. Hence, just as soon as it is determined that a man cannot make a good or enduring soldier, he is discharged. The medical department in these camps does not yet undertake the prolonged care or reconstruction of those citizens who come to camp with conditions which may need more or less prolonged care, unless there is a good chance that the man will eventually be made efficient as a soldier. That is civilian work at present. The attitude will be different, however, towards the men who have seen service, have given health or limbs to the cause, and have become invalided. These men will be cared for in the reconstruction hospitals or camps, presumably, for as long a time as they may need such care. If reconstruction departments shall be added to the base hospitals of the military camps, it is possible that the men who, on coming from civil life and before they have seen service, have chronic conditions needing long care and treatment, will be taken care of in the reconstruction department. Many reconstruction hospitals will be established quite independently of the military camps, however, for they need the proximity of industrial and educational facilities. But because of the advisability of continuing in them the military discipline and atmosphere, some will probably be established in connection with the base hospitals of the military camps, where that atmosphere is so prevalent. But it is doubtful if even then wards will be established for more than emergency work for the strictly psychiatric cases, as it will probably be found that special hospitals for these cases or the civil hospitals for the insane already established can take care of them more adequately. In saying this I am expressing only my own personal opinion and not any official judgment or plans.

I.

In the military camps, as distinguished from the reconstruction camps that may be established, the work of the psychiatrists falls into four main types, of which two are in the line, and two at the base hospital.

1. *Educative.*—This war has brought about many innovations, and among them is a consideration of the individuality and of the mental and nervous condition of the prospective soldier. But the line officer does not always appreciate this nor know what things to be on the lookout for in order to detect the indications of such abnormal conditions in the men as may be detrimental to the service. So a part of the work of the psychiatrist is to give talks to the line officers, telling them how the various mental and nervous conditions interfere with the making or the dependability, or the endurance or the efficiency of the soldier, and what types of behavior he should be on the lookout for. Their cooperation in looking for these conditions and sending men for examination or observation is asked for. Some are very much interested and cooperate, others think it all nonsense, others are indifferent. Such talks have to be arranged for with the regimental commanders. If one wishes to talk to the medical officers only, the arrangements are made with the division surgeon. But it is advisable to talk to the non-medical officers as well, and even to the non-commissioned officers, for they see much more of the men than the medical officers do. Such educative propaganda will have its far-reaching effects in civil life after the war is over, and I regard it as a very valuable opportunity to spread such suggestions in the community as that there are great individual differences in men and that the law-breaker, for example, may be a mental defective who needs different treatment from that of a non-defective, and other more advanced ideas relating to the non-efficient class.

2. *Survey.*—An important work of the psychiatrist is to make a survey of the whole personnel of the camp. The ideal way to do this would be to have the recruits on arrival at camp come into special barracks where they could be held before being assigned to any organizations until the various special examiners could go over them at reasonable leisure. An approximation to this plan is made by having the recruits very hastily surveyed

by the examiners as fast as they come in. The men are stripped and run the gauntlet of the various specialists. The examinations must be very superficial when over 1500 men are looked over in a day. Many slip through with defects which are detected some time later who would have been eliminated in the first place if only half the number were examined in the same period of time. Four neuropsychiatrists have been able to make a superficial examination as fast as the other examiners were making theirs.

Before even this plan was adopted, and wherever it has not yet been put into practice, a survey of the personnel, regiment by regiment, is made when possible. It is necessary to secure the cooperation of the commanding officer of the regiment for this. It is sometimes easily secured, sometimes he resents it as an interference with his work of training soldiers because it takes the men away from their work. Whenever possible it is advisable to make the survey in cooperation with the tubercular or other examiners, for example, as it causes much less loss of the soldiers' time. After the commanding officer gives his cooperation, arrangements are made with the regimental surgeon and the adjutant to have the men of a given company remain in barracks or report at the regimental infirmary at a given time. There the psychiatric examiners go over each man, testing pupillary and tendon reflexes, coordination and station, looking for tremors and for scars suggestive of epilepsy, and asking a few questions as to heredity, environment, schooling, convulsions, or nervous break-downs, meanwhile noticing any peculiarities. Under the most favorable conditions, with a roster of the company, and a clerk to check off the names and put down findings, one examiner can make a fairly thorough preliminary survey of from 150 to 200 men a day, according to their quality. But in actual practice that number cannot be examined on an average, because of time lost in going from one organization to another, changes in daily orders in the organization, misunderstandings, etc. It was found at Camp Sherman that making allowances for Sundays, holidays and unexpected interruption, interferences, and delays, one examiner could be counted on to go over about 2800 to 3000 men a month. The time available and the size of the command will determine the number of examiners needed to complete a survey in a given time.

This type of survey is unsatisfactory for it can never be complete. Men are transferred out from a company that has been examined and men from unexamined units are often put in to fill up the organization, and it is difficult for the examiners to go back and pick up these men.

3. *Observation and Diagnosis.*—In such survey there is not time to make thorough examinations, and some cases need continuous observation. All cases that cannot be decided on at the preliminary survey are referred to the base hospital, either to be admitted as patients for observation or to be examined thoroughly at greater leisure. The psychiatrist at the base hospital sees these men, makes careful examinations, often spending an hour or two at a time on one patient, applying Binet or other tests where needed. He writes for information to relatives, employers, or attending physicians; or gets information as to the man's behavior from commissioned or non-commissioned officers or privates, with a view to getting such data as may help in the diagnosis of epilepsy, mental deficiency, peculiarities, malingering, etc. It has been found very helpful to have a non-commissioned officer go to the patient's company to make inquiries about his general adaptive reactions or about some special incidents.

Besides the cases thus referred by the surveying examiners, there are sent over to the base hospital by the line officers patients in whom they suspect evidences of nervous or mental disease. In the camps where psychological surveys have been made, the psychologists have also referred cases to the psychiatrists. These cases are examined in the same way as those sent by the psychiatric surveyors.

In addition to these many cases are seen in consultation in the other wards of the base hospital. Many of these are neurasthenics, in whom the question of malingering arises. Sometimes the advisability of operating on a given patient comes up, as, for example, in a case of hernia in a defective. If he is too deficient mentally to make a good soldier, operation is advised against.

Another group of cases that comes before the psychiatrist is that of the men who have been arrested for various offences—stealing, desertion, repeated absence without leave, etc.—in order to determine their responsibility for their acts, and whether or not they should be brought to trial by court martial. In one case

that recently occurred a man had already been convicted for refusal to be operated on for hernia. Before sentence was passed, however, the question of his mental ability was raised, and it was found that he was about nine years old developmentally. He was not sentenced, but discharged from the army.

4. *Treatment*.—The cases of mental disease arising among the men, such as manic or depressive states, dementia præcox, acute alcoholism, delirium tremens, etc., have to be taken care of and treated until some adequate disposition can be made of them. It falls, of course, to the psychiatrist to exercise the care of these, as well as of the cases sent for observation or special examination. The psychiatrist has to determine whether the patient should be allowed to go home, or should be sent to an institution for the care of the insane; also, whether he can be allowed to go home alone or must be accompanied by one or more persons. And if the patient goes to a hospital, the psychiatrist should prepare and send adequate records of the case.

5. *Discharge*.—Since the vast majority of the men who are found to have some nervous or mental disease or defect are incapable of making good soldiers or of enduring without breaking down the stresses of warfare, they have to be discharged. It is part of the work of the psychiatrist to make the recommendations for discharge, giving the diagnosis, and stating how the condition interferes with the man's performing general military service. In some camps the psychiatrist makes his recommendation to a general disability board, of which he may or may not be a member. At Camp Sherman three of the psychiatrists themselves constituted a disability board. This gave an opportunity to hold conferences over the cases, to which the other neuropsychiatric examiners and sometimes other physicians were invited.

The judgment as to whether a case should be discharged or retained in the service has often been a puzzling one to make. The decision would be easier if there were no border-line cases. Two recent policies have served to help greatly in this matter. On April 2, 1918, an order from the adjutant general directed that border-line cases (in any field) will not be discharged, but that their service records will be endorsed "fit for domestic service only." And the surgeon general wrote on May 11, 1918, that it was the opinion of that office that there were no border-

line cases in neuropsychiatry, with the exception of certain cases of mental deficiency and drug addicts. Thus many of the slighter degrees of neurasthenia and psychoneurosis, which were puzzling before, are now clearly dischargeable; and many mental defectives, capable of simple work under direction, but incapable of general military service, can be retained who before had to be discharged.

II.

Some of the kinds of cases and of difficulties that confront the psychiatrist can be illustrated by our experience at Camp Sherman.

The feeble-minded make up the largest single group of cases. Up to May 1, 134 out of 468 cases recommended for discharge were of this group. Before the order of April 2 was issued, it had been our custom to recommend the discharge of those who measured below ten years. Since then we have recommended the retention "for domestic service only" of two men who would have been wholly unfit for general military service. They measured between nine and ten years intellectual development, but were strong and healthy, industrious, willing, good-natured, orderly, with no asocial or antisocial tendencies, and had some sense of responsibility. They had been at work in the quartermaster's department for six months or more, one sweeping out warehouses, helping load trucks, etc., the other keeping latrines clean and looking after a small boiler for heating water. Their work was satisfactory, and they were only sent up for examination because the examiners in making their survey recognized their mental deficiency.

On the other hand, a man measuring about 13 was forgetful, had so little sense of responsibility that he could not be depended upon to carry out orders, went off without leave, and was not cleanly. He was unsuited even for stable work or general labor, so his discharge was recommended.

Those measuring 12 years old and over were regarded as suitable material for the army unless they were of unstable make-up, had shown economic or social inadaptabilities, or had some general physical disability, even though the latter were not sufficient in itself to be a cause for rejection.

At Camp Sherman the epileptics formed the next largest single diagnostic group. If the epileptics and organic nervous diseases are grouped together, this whole group is a trifle larger than that

of the feeble-minded. Most of the patients could give a characteristic description of the onset of attacks, but in two there seemed to be absolute amnesia for them, and for having had them. One had a typical grand mal seizure, seen and described by a young physician; the other made a suicidal attempt in barracks and later in the hospital; no recollection whatever of either attempt could be elicited either by ordinary questioning nor when hypnotism was attempted. No other cause for the suicidal attempt could be unearthed than a probable epileptic crepuscular condition.

Among the officers referred for examination, manic-depressive depressions predominated, and these were the most frequent of the actual psychoses seen at Camp Sherman. Of my own personal cases, 22 out of 30 psychoses were manic-depressive cases. There were only four cases of dementia præcox in this personal series.

There were many cases of neurasthenia following trauma or severe illness, and it was often a difficult matter to determine whether it was a real or an assumed disability. These cases were usually kept under observation several weeks, and information was sought from physicians who had attended them in civil life. Consultation with the orthopædists or other specialists was frequently held. X-ray examinations were usually negative, as were the results of spinal puncture and Wassermann tests. There were other types of neurasthenia, some with a number of vagotonic or hyperthyroid symptoms, without thyroid enlargement. These were recommended for discharge on the ground that they were not capable of standing the strain of general military service, nor even of domestic service. By searching inquiry one can elicit from almost all men an occasional neurasthenic or fatigue symptom. But of the 388 men whom I personally examined carefully only 29 showed enough symptoms to make it evident that they could not endure.

When a large number of drafted men are received there are always a few cases of alcoholism, delirium tremens, and drug addiction. The confirmed habitués could not be kept in the base hospital long enough to be reconstructed, and once they were in the ranks they could comparatively easily get the drug. One told me that previously, when in the base hospital, he had been able to get it, even there.

There were not many constitutional psychopaths (35 in all), but a few, sexual perverts, paranoid personalities, and inadequate personalities, were found and recommended for discharge.

The cases examined with reference to whether they should be brought to trial or not were principally for repeated absences without leave, or for desertion. One case was for forgery, another for stealing, and one, dementia præcox case, for refusing to obey orders. Some were clearly feeble-minded, and proceedings against them were stopped and the men were discharged. Two measured between 12 and 13 years, but had good understanding of what they were doing—desertion in the one case, stealing in the other—and were allowed to stand trial. Another, measuring 14 or 15 years, had a long insane hospital and penitentiary record, and was also regarded as being sufficiently developed to stand trial for forgery. The decision in these cases has to be made with different conditions in mind from those which obtain in civil life. There is no indeterminate sentence or probation. It is either full acquittal and return to the ranks, or sentence to the military prison at Fort Leavenworth.

A number of cases of persistent enuresis were under observation. Most of these were mental defectives, with rather small bladder capacity (280 to 350 c. c.). One was a very intelligent fellow whose father corroborated all the essentials in his claims of never having been able to control his bladder while asleep. He, like the others, was discharged.

The following summary of the work done at Camp Sherman up to May 1, 1918, may be of interest:

Examined in general survey	25,025
Drafted men	7,399
Total	32,424

Cases with positive findings:

Nervous diseases including epilepsy	137
Psychoneuroses	91
Psychoses	91
Inebriety, including alcohol and drugs	17
Mental deficiency	134
Constitutional psychopathic states	35
Total	505
Recommended for discharge	468

THE NURSING PROBLEM AS RELATED TO PSYCHOPATHOLOGY.*

By RICHARD DEWEY, A. M., M. D., WAUWATOSA, WIS.

With a view of eliciting discussion of the conditions and prospects in the sphere occupied by the immediate caretaker, nurse or attendant upon psychopathic patients, I will endeavor to state some of the elements and factors concerned in this particular problem.

First, a few words regarding the available nursing forces. Considered as a whole, this situation may be briefly outlined as follows: There is in the United States a total of between 80,000 and 90,000 registered or graduate nurses—the head of public health nursing at Simmons College, Anne Hervey Strong, puts the entire number at 66,000—of these 7000 are already enlisted in Red Cross War service and Surgeon General Gorgas is now asking for 5000 more. No one can forecast as to what the future has in store; but if the enemy is not overcome during the present year and if the victory is not obtained which alone can end the intolerable attempt of Germany to dominate and terrorize the world, we may see one-half of our entire force of nurses drawn into the employment of the military hospitals. The proportion of 12,000 nurses for each million of soldiers is considered requisite by the authorities. Accordingly, the present force of 1,000,000 soldiers requires 12,000 nurses; 3,000,000 soldiers would require 36,000 nurses. It is understood we face the possibility that even 5,000,000 may be required, which would necessitate a force of 60,000 nurses. To meet this demand, a school has been established at Vassar to which the Red Cross gave \$75,000 and the government is planning an army school of nursing at cantonments. A 25 per cent increase of pupil nurses has taken place, but all that can be done will leave us short. Among our civil population, there are 3,000,000 persons sick and in need of nursing every day in the year, 90 per cent of these are in private homes. The loss to the nation in a year from this source is \$1,500,000,000, and half of it is preventable sickness.

* Read at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

Now, turning to the nursing problem as it affects our especial field: the state hospitals and those of county and city. We have a situation which can but occasion grave concern. Not only is there a dearth of trained nurses for mental cases, but nurses of any kind are in demand far in excess of the supply. The care of more than 200,000 mentally incompetent charges of the state rests upon the shoulders of the members of this Association. We have heretofore carried on our work, under difficulties to be sure of various sorts, with some degree of success, but the difficulties are now intensified many fold and also greatly heightened by economic stress. It is the general experience that there is a constant diminution of numbers caused by resignations of attendants and nurses from the service, while far less than the requisite number apply or can be found to take the places that become vacant. Many of us have found that neither "love nor money" appears to be of any avail and the necessity for help becomes more and more imminent. It has been our ideal to develop a body of trained nurses for our hospital work, corresponding in efficiency to the nurses of the general hospital. Training-schools have been inaugurated and maintained increasingly from the historic epoch nearly 40 years ago, when Edward Cowles established the first training-school for mental nurses in McLean Hospital (in 1880). The example of the McLean Hospital was followed in chronological order by Buffalo, N. Y.; Flatbush, L. I., N. Y.; Poughkeepsie, N. Y.; Indianapolis, Ind.; Kankakee, Ill.; and a constantly increasing number of training-schools has been developed. An effort has been made under great difficulties to maintain these schools, but, in general, they have fallen off in numbers and some have been discontinued. It has not been possible to reach a point of development where the whole body of the nurses and attendants could be carried through the complete course, and fewer still remain in the service after graduating. My own experience in maintaining a training-school at Kankakee from 1887 to 1893 convinced me that a full course of training for the whole nurse or attendant body, corresponding to the course given in the general hospital, was not practicable. In working upon a curriculum, especially adapted for the state hospitals, I found that the entire technique of surgical nursing and sick nursing could not be applied to the entire body of nurses. The field of nursing embraces

within itself many specialities: surgical nursing, sick nursing in all its varieties, the nursing of mothers in confinement and children, the nursing of the tubercular, public health nursing, massage and hydrotherapeutics; and, in departments by themselves, public welfare and social service. Finally, the care of mental cases is in itself a specialty requiring as much of study and talent, though of a different sort, as any of the others mentioned.

In the recent reports of two of the state hospitals of New York—the Brooklyn and Manhattan hospitals—I notice particular mention is made of a special course of training covering a period of 13 weeks, which it has been sought with varying degrees of success to carry out with the general body of the nurses. A paper published in the *Journal of the American Medical Association*, by Dr. Philip King Brown, of San Francisco,¹ states that in 72 training-schools of California, mental nursing was only included in four. Dr. Brown's conclusion was that the present system of instruction is not well balanced. He recommends practical instruction in handling the sick, surgical cleanliness, administration of remedies and application of dressings, bath instruction and keeping of the chart. He is of the opinion that nurses should pay for their instruction and should not be boarded in the hospital.

In discussing training schools for state hospitals before the National Conference of Charities at Omaha, Neb., in 1887, the writer used the following language which may be regarded as still applicable to-day:

The training-school for attendants upon the insane, though in part an outgrowth of the training-schools for nurses, has an essentially different character—requires much that a sick-nurse does not need to know; while, on the other hand, much of the nurse's instruction would be thrown away on the asylum attendant. The persons who are willing to engage in the care of the insane as attendants do not possess the education and previous mental training which would be desirable, if attainable; and, therefore, their instruction must be of the most direct, plain and simple character.

Now, coming to the present day over a gap of 30 years, let us inquire: First, what are present conditions? Second, to what

¹ *Journal of the Am. Med. Assn.*, May 18, p. 1438: "Nurses and the War," Philip King Brown, San Francisco.

extent the courses of instruction of the general hospital training-schools is necessary to our especial purpose?¹

We who have the field of mental nursing to occupy are all familiar with the embarrassment and lack of adaptation which the graduate of the general hospital training-school shows in mental cases, unless perchance she has gained experience in an institution for mental disease or had special training and instruction in such work. Indeed, the highly trained graduate nurse is often less fitted for oversight of the mentally deranged than many an untutored woman of common sense and kindly disposition. Who of us has not had nervous and psychotic patients or friends of patients who wished to avoid the trained nurse, who had such erroneous views that they objected to the very costume, and instead of being "healed" by the "seersucker stripes" were repelled? The well-starched cap and robe of white called up experiences in the past not of a pleasant sort.

Far be it from me to detract in the slightest degree from the conspicuous merit of the thoroughly accomplished and highly efficient presiding genius of the surgical ward, fever pavilion or operating room. I am only saying that the qualifications needed here are of another kind from those appropriate for dementia præcox or psychasthenia.

Here it is well to note the circumstances of a movement among the associations of trained nurses looking toward the formation of a class to be known as aides, assistants or attendants and to be auxiliary to the registered nurse.

In April, 1914, at a joint meeting of the American Nurses Association, the National Organization of Public Health Nursing and the National League of Nursing Education, these several bodies, representing about 50,000 nurses, passed resolutions requiring:

- 1st. The acknowledgement of the necessity for two groups of nurses and no more: the trained nurse and the trained attendant.
- 2d. A pledge of cooperation in any plan which would provide suitable training for attendants.
- 3d. A belief in standardization and protection of the attendant by law.

¹"Training-Schools for Attendants." Proceedings National Conference Charities, Omaha, Nebr., 1887, p. 221 *et seq.*

This we learn from the publication of the Proceedings for 1914 of the National League of Nursing Education. Agitation of these proposed changes has produced discussion in the General Medical Board of the Council of National Defense, and the attitude toward the question of creating a new class of nurses' aides or attendants is expressed by the following resolution:

"The committee believes that short-term courses are likely to result in positive harm. Their introduction into hospitals regularly maintaining training-schools would tend to break down the machinery of nursing education. Furthermore, the energies of women, who would otherwise take a thorough training which would make them more useful factors in the war, might be diverted to special short-term hospital courses."

They also state: "We place ourselves on record as of the opinion that the mentally as well as physically sick should have the advantages of the services of a fully trained nurse." I would not undervalue training, as we have seen in the present war the uselessness and inefficiency of the amateur. (Out of 1500 women volunteers in a recent case of need—so Professor Stevens tells us—only two came forward in the real emergency.) The claim of full all-round training, however, for all may be regarded as a "counsel of perfection" when we reflect that not only is the supply of trained nurses insufficient for the needs of those in the community who are so fortunate as to be able to command their services. On the other hand, in private homes of the moderately well-to-do and in general hospitals, public and private, thousands are in equal need: yet the supply of graduate nurses is so limited that the creation of a body of less expensive trained "attendants" or "aides" seems imperative.

Furthermore, the state hospitals for the insane have at the most only an inadequate sprinkling of graduate nurses, a wholly insufficient body of pupil nurses, and are obliged to utilize as best they can the wholly untrained for the care of the great majority of their inmates. In institutions where a training-school is maintained, the number who complete their training, as compared with the demands, is insignificant. Those employed as attendants are a shifting body of individuals, only a small minority of whom can be said to possess the qualifications and the willingness to give themselves permanently to the duties of nurse or attendant upon the insane.

These facts make it necessary to consider whether a class of nurses of a grade less completely trained than the registered nurse and yet qualified for ordinary service, educated and standardized, and registered, or licensed by the state for their special field of usefulness, would not be an improvement upon the present rather chaotic condition.

NOTE.—Since the above was written, agitation of this subject has gone on apace. At the present time (February, 1919) there is heated discussion over a bill that the organized nurses have introduced in the Legislation of Illinois to create a body of "junior" nurses who shall have a course of 18 months' training. This law further provides that "a junior registered nurse may nurse the sick or disabled, but may neither engage in public health nursing, act in a supervisory capacity in a hospital or similar institution, act as an instructor or in a supervisory capacity in a school of nursing, nor act as an instructor or in a supervisory capacity in public health service or any other like service." Moreover, she is not permitted to nurse in a hospital except "*when she is under the immediate personal supervision of registered nurses*" (italics mine).

This has the appearance of an attempt to develop an aristocracy or privileged class of nurses. The "junior" or "practical" nurses will form a "middle class," and it is to be feared the "proletarians" will come in and reduce the whole system to chaos!

THE COMMUNITY MENTAL HEALTH MOVEMENT AND ITS PROBABLE DEPENDENCE FOR SUCCESS ON A HIGHER STATE HOSPITAL STANDARD FOR WARD EMPLOYEES.*

BY SIDNEY D. WILGUS, M. D., ROCKFORD, ILL.

STATE HOSPITAL SOCIAL SERVICE SUGGESTED.

The first statement that state hospitals might well broaden their field of activity or had come "To the parting of the ways" was delivered by Mr. Homer Folk, to whose foresight and constructive endeavor in many directions all state hospital people should be profoundly grateful. This warning fell from his lips nearly 15 years ago, when he stated as an opinion that the hospitals must broaden out and be powers for good outside their boundary lines else deteriorate with "dry rot." The suggestion met with favorable comment at the time and afterward, and yet one can survey the field to-day and see it has borne but little fruit. This is so because the visions of the idealist travel faster and farther than the material limitations of practical life allow. Ideals are like castles in the air, but they can be materialized if after dreaming them we get back to the brick and mortar of life and after removing obstructions build real castles patterned after the visions.

THE APPARENT ALTERNATIVE.

Assuming that the plan has virtue in it, come back from the dream of the mental health exponent to examine the nature of the obstacles preventing the full development of the plan and study how to remove them; the alternative, quite impossible, seems to be to allow progressive tendencies to pass into other hands, for progression there will be. Within a few years social service has become recognized by departmental establishment in nearly 200 general hospitals of this country, and if the state hospitals fail to profit by this example and precedent the initiative will simply pass into other hands, leaving them more custodial than ever.

* Read at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

PRACTICAL REASON FOR DELAY.

Before a management can undertake to greatly enlarge its field of operations the feeling must be present that the base from which it operates is as safe and in as good order as the military base of an army commander. Very few hospital officers feel that way now, and while away from their institutions each man's head bears a crown of thorns. Under this condition of affairs can any such afflicted officer be expected to think seriously of the considerable expansion of his sphere of activity this plan entails? The answer, of course, is in the negative, so discussion of the cause of this disability, the ward service, is next in order.

THE UNSATISFACTORY WARD SERVICE.

All of us very well know that the attendant's calling should be considered a specialty of no mean importance. It is a trade or calling, the grasp of which demands several months' training. This has been fully recognized by superintendents these many years. Yet we know also that the ward employees are unstable as a class and in this fail to meet a fundamental requirement for good results. The training school for nurses was initiated 35 years ago to stabilize the service, but the result was achieved to minor (if not negligible) extent only. A questionnaire to show the figures concerning changes (and hence low efficiency) amongst ward employees was sent out just before the war and found the average number of changes in the attendant force in 60 hospitals in the United States and Canada was then no less than 75 per cent per year. Half of the attendant group changes several times per year. The replies therefore covered conditions very widespread, geographically and otherwise. Careful survey of the facts and figures makes the fact evident geographical location had little to do with the number of changes; neither did the size of the *customary* wages of \$20 to \$35; nor did the hours of labor have any bearing. The surmise that there existed some potent cause not yet fully recognized seemed well justified.

TEACHING SERVICE VERSUS CUSTODIAL SERVICE.

The secret was not deeply hidden, for some parts of the public service were more stable, and it simply became necessary to com-

pare the facts concerning the relative services. Within the past few years it had been my fortune to go quite intimately into all of the state institutions of three states of the union and particular effort was made to ask concerning difficulties with attendants on one hand and teachers and guards on the other. It was soon found that the number of changes amongst state institutions employing guards for prisoners and teachers for boys and girls were far fewer than occurred amongst the attendants in the state hospitals. A little inquiry served to show that with practically equal working conditions the guards and teachers were *better paid* individuals and, on the whole, came from a more stable class of society, or else they felt that their reward for service was in proportion to the difficulties of said service. For one or both of these reasons the service in these quarters was certainly more smooth and harmonious and the end far better achieved.

QUESTIONNAIRE TO MID-WEST TEACHING INSTITUTIONS.

The questionnaire recently returned from 18 institutions employing teachers and guards contained some interesting facts. Twelve concerned institutions employing practically all female help and six practically all male help. In the former group 420 employees showed 120 changes or 30 per cent per year as contrasted with 307 male employees with 114 changes or 37 per cent per year. This indicates a somewhat higher rate of change amongst male employees. This is of particular interest as the females averaged \$50 per month (and usually maintenance) and the males \$70 per month (and usually maintenance). Therefore it would seem that a male wage of \$70 is less satisfying than a female wage of \$50. This is not surprising when we consider the customary additional burdens that the male of the species is expected to carry. Now to contrast the above with state hospital conditions we find a total of 727 teachers and guards with a turnover of 32 per cent in a year involving war conditions, whereas in the state hospitals we found a pre-war turnover of 75 per cent as something just ordinary and to be expected. With the plain fact here of twice the turnover in the state hospitals as compared with the others we find the wage in the state hospitals averages between \$30 and \$35 per month with the average in the other group nearly double, or \$60 per month. Kindly

note that the state hospitals with half the wage contribute exactly double the turnover.

Yet notwithstanding the great advantage in favor of the teaching and guard class I want to quote a pertinent and patriotic remark of Major D. C. Peyton of the Indiana Reformatory which carries a recommendation of all the managing officers in definite form: "It seems to me that state institutions and all other organizations should make the necessary sacrifices in order to contribute toward winning the war; yet *in order to keep the minimum number of competent employees to handle the state's business I think the scale of wages should be such as to attract the correct type of employees* to successfully handle the state's business, but each institution should endeavor to get along with the lowest possible minimum of employees." The superintendent of the Illinois State Reformatory, Mr. Scouller, seems to voice the sentiment of this class of officers in the recommendation to make the entrance salary not less than \$65 and maintenance, with a regular scale of increases to \$100 and maintenance. I cannot close this particular discussion without quoting an illuminating statement from the warden of the Michigan Reformatory which is sarcastic, humorous or pathetic according to one's point of view. Warden Fuller says: "We pay a thousand dollars per year and average fewer than two vacancies per year. We have no difficulty in filling vacancies as fast as they occur and usually have more than 100 applicants on the waiting list. I understand the state hospitals for the insane in the state experience a great deal of difficulty in keeping a full force of attendants and if you will address the superintendents you can obtain a great deal of valuable data along this line." Thus we see plainly in the statement of fact followed by quotations from state officials the relation between wages on the one hand and stability (efficiency) on the other.

THE LESSON TO BE GATHERED FROM THE TWO QUESTIONNAIRES.

It seems clear that the inducements needed for the hospitals, as for the schools, are those which will allow the average man to live and enjoy a normal life; a wage sufficient to allow a man to live in his home and support a family and yet have something left for entertainment and some for investment.

The old state hospital class cannot be anchored, as it is inherently as instable as the quicksand of the sea. It is of this same class that Alder speaks in one of his papers on social conditions and in this connection remarks that in certain New England districts the mills were forced to employ six men per year for each position in order to keep the positions filled. So to do our broader work we must go to a new class, the latter class, the group more stable, and offer the one necessary inducement, the greater wage, to take up this most difficult and yet fascinating work of caring for and upbuilding wrecked human lives.

WHAT IS THE PROPER WAGE?

Difference of opinion may arise about the size of this living wage, but that matter may be settled through consultation with investigators in social fields; the second questionnaire (*i. e.*, concerning teachers and guards) brought forth some important facts and correlated suggestions concerning wages; these are worth a second glance and are referred to at this time. Our high-grade employees may be given rent and supplies to some extent in lieu of cash and the cash equivalent for service might thereby be lessened. When the United States desired to meet such a problem in the ship-building program Congress hesitated not to spend millions of dollars for housing accommodations for the workmen. How far this plan can go in hospitals is a question, for men like to handle money and to spend it and the larger cash wage may be considered the most important item to meet the situation surrounding present conditions.

WITH STABILITY WHAT RESULTS ARE TO BE EXPECTED.

The great bulk of the inmates need not the nurse nor the group caretaker called the attendant, but the *individual* caretaker or *teacher*, and this is one of the points I have been leading up to, namely, the development of a stable service made up largely of educable employees in the shape of corps of nurses and teachers, few of the former and the bulk of the service of the latter. I use the qualifying word "largely" in the last remark for the reason that some few attendants may still be needed in a certain capacity to do simple, unskilled labor.

Granted a capable and ambitious superintendent safe in office and the staff he will soon assemble, what cannot be done with the aid of these two higher groups of fellow workers? One sees accomplished *within* hospital walls that which has heretofore simply been dreamed of, a service full of courtesy and of personal care; of the prevention of vegetative dementia; of the re-education of those neglected in the past; of the development of the productive power in which economy is an end sought, but in a rôle minor to mental health; of economy in help and in clothing and supplies not now possible—all this means the widest personal care of each individual and of that individual's belongings and of the state's properties and effects supplied and maintained for his benefit.

THEN THE SUPERINTENDENT MAY BROADEN HIS FIELD.

With such a dependable and efficient organization at home he may feel as he never heretofore has felt, namely, that his efforts and skill may be extended and applied through practical means to the betterment of the mental health of his community. His new organization will supply him with efficient, trained mental nurses and with hospital-trained social workers who may be given such outside postgraduate advantages as seem necessary for best results. When that time comes *within* the hospital precincts why cannot each superintendent develop and organize *outside* the hospital in his district: prior care; proper care pending commitment; proper traveling custody of the committed; encouragement of voluntary and emergency commitments; boarding out; after care; public clinics; cooperation with the courts and with other public organizations—all these and perhaps more in every town and community in the district?

ADDED EXPENSE (IF ANY) FULLY NEUTRALIZED.

Expense may be alleged by some to be prohibitive. To my mind this is absolutely without foundation in fact. One good teacher with ambition, pride, interest and skill is worth many of the kind commonly attracted now to our state hospitals. *Locally* there will be that saving of man power patriotically recommended by Major Peyton; the conservation of clothing, ward furniture, fix-

tures, supplies and food by these intelligent men will amount to a considerable item; the conservation of the productive power of inmates for their health and for the benefit of the state will prove astonishingly great; the courtesy and personal care now largely lacking and the higher grade of nursing facilities cannot be measured in dollars and cents, but should be recognized on their merits. Lastly when it comes to the operation of the superintendent's *district* organization founded on his better ward organization then I say that problems involving an immense amount of human misery and crime and the expenditure of millions of dollars are directly attacked in their home environment. Criminology, for instance, shows us that more than one-half of all criminals, paupers, and prostitutes are feeble-minded or insane. And if these people can be handled psychiatrically by the superintendent and his organization before they have become involved with the law the financial and other advantages are so obvious that no discussion is required. There are so many of these problems that this field organization may assist in attacking from the economic as well as the humane point of view that it is rather difficult to mention them all, but a few of them are herewith given in addition to the above: The prevention of insanity through early advice and perhaps voluntary treatment in a hospital for the insane or elsewhere; the prevention of insanity through eradication of syphilis and other diseases directly or indirectly affecting mental health; cooperation and advice with the courts in mental cases; scientific examination of alleged criminals and especially those pleading insanity as a cause for crime; cooperation with other public agencies for mutual investigation, information and advice; the establishment of clinics in all the towns of the district; the establishment of psychopathic wards in general hospitals; control of the propagation of the insane and defective at large, whether prior to being taken into custody or after parole, discharge or escape from public institutions. These are some of the points of economic and human usefulness of such an organization, but the field is so broad that undoubtedly others will occur to the managing officer once that his organization is at work.

RÉSUMÉ.

So let it be repeated that the success of this plan for the hospital extension or community health work would appear to depend: (1) On stable constructive service at home; (2) the existence of this would seem to depend in turn on the employment of a class of ward workers as high in interest, ambition, pride and educability as the teaching class; correspondingly the reduction of the "group" attendant service to the very minimum; (3) to secure the higher class dependence simply lies on one factor—the living wage; (4) lastly the living wage, so called, spells economy in hospital management and the development of a hospital extension work with possibilities that charm the man with vision.

SYMBOLISM AND SYNÆSTHESIA.

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An idea becomes a symbol of another idea through some similarity and the association attendant on such similarity. "No form of association is too narrow a bridge to allow of the passage" (Ernest Jones).^{*} In such manner and to such extent as a symbol represents its primary idea, it is "identified" therewith. In so far as a certain symbol always represents the same primary idea and no other, it is "constant." In so far as a symbol is shared by many persons, it is "pervasive." Symbolisms also differ in their relations to consciousness. There may be full or no consciousness of connection between a symbol and its primary idea. Those with no such consciousness have been classified as "dissociative symbols." Some psychoanalytic writers consider that the term symbol should itself be restricted to such cases.

A high degree of constancy and pervasiveness is ascribed by psychoanalytic writers to symbolisms of this class. It has been questioned if these features should be wholly accounted for in terms of individual experience, or if some conception of inherited or otherwise extra-experiential associations should be considered to underlie these particularly constant and pervasive symbolisms. The latter view makes comparatively little headway so far as psychoanalytic symbolisms are concerned. There has been indicated, however, a mechanism of extra-experiential associations, occasionally having the character of symbolisms, not excluded by the more accepted experiential mechanism, which it may at times reinforce.

Pathological studies give evidence of definite associations between two ideas not associated in previous experience. This is indicated when, *e. g.*, the sound of a tuning fork elicits hallucinations of different words or phrases. The hallucinations are not confounded with the tone of the fork, but are strictly associations thereto. The content is often complex, consisting of many

^{*} "Why, gentlemen, who *does* trouble himself about a warming-pan? Why is Mrs. Bardell so earnestly entreated not to agitate herself about this warming-pan, unless (as is no doubt the case) it is a mere cover for hidden fire. . . ."

vocables, or words, and elaborate pictures. In these cases the stimulus does not regularly elicit the same hallucination, the latter being inconstant. Their status appears that of psychotic symptoms only. Goldstein¹ alludes to happy and melancholy misperceptions induced by the same stimulus according to the condition of a manic-depressive case. Such constant relations as do appear between the hallucinations and the inducing stimuli are, as Goldstein points out, of a formal character. The hallucination comes when the stimulus comes and does not, as a rule, persist longer than the stimulus lasts. Correspondence in the rhythm of stimulus and hallucination is noted by both Goldstein² and Sokolow.³ In the observations of Chvostek⁴ and of Goldstein,⁵ the quality of the hallucinated voice is also affected by the quality of the inducing stimulus. In Sokolow's⁶ case cold stimuli elicited sound hallucinations of higher pitch than warm ones, which he thinks may be because the cold differed more from the body temperature than the warm stimuli he used. Auditory hallucinations have also been induced through direct application of electric current, as observed by Moravcsik⁷ and Jolly. Here belong also the visual hallucinations (induced in alcoholic cases by pressure on the eyelids with fingers) to which Liepmann⁸ called attention. Bechterew⁹ reports similar observations with the interrupter of a coil.

These induced hallucinations have scarcely the status of symbolisms, not being identified in any way with the inducing stimulus. They appear to be kept separate, which also takes them out of the category of illusions. They simply show coercive association between two mental processes, independently of special connection experienced between them.

The synæsthesias proper are more relevant. Bleuler¹⁰ finds that like the induced hallucinations, the synæsthesias begin and end with the primary sensation. In the case reported by Downey,¹¹ the synæsthesia appears to last longer than the primary sensation. Synæsthesias differ from the above induced hallucinations in that while the induced hallucinations are very inconstant, the synæsthesias are very constant. This is indicated by Bleuler's¹² reinvestigation of his material, 13-15 years after the original observations. There was only some decrease in the facility and intensity with which the phenomena appeared, in which agreement with Flournoy is cited. The synæsthesias offer groups of associations which persist with hallucinatory coerciveness in those

subject to them. Bleuler²³ remarks that he can sometimes recall names from the visual synæsthesia (photism), when he has forgotten the auditory impression.

Bleuler generalizes from his material, 76 cases in all, to observe the continuity of the photism series, corresponding to the continuity of the inducing sounds. The musical scale gives such a series, for example, from black to white through red or gray. Transition forms of vowels give transition forms of colors. Overtones, which certainly form no regular color associations through conscious experience, may appear in the photism even though not consciously perceived in the inducing stimulus. A scale from yellow through red and brown to black is especially frequent for musical tones. For noises, red is nearly absent, blue and green are very rare. In general, high notes induce sharply defined photisms with pointed forms. A whistle beginning low and rapidly becoming high may thus appear in the photism as a wedge whose base represents the low period of the tone. In the photisms not from sound, but from skin and general sensibility, violet is absent, brown and green are very rare.

The following examples of synæsthetic phenomena are noted by observers of individual cases: Among complex sensations of taste induced by vocal complexes of spoken words, Pierce²⁴ reports the word *parlor* to represent honey on bread; *loud*, a boiled new potato; *grin*, French toast, or fried bread. Among nonsense syllables, *zaf* is a meat flavor, salty, hard, like corned beef. *Hes* is small particles, minced meat. *Dep* is roast beef well done. More elementary stimuli induce sensations as follows:

Tuning-fork of 256 vibrations, as if warm air were resting upon the tongue.

Tuning-fork of 512-1024 vibrations, warm and clear, sweet.

On the piano, A₂-E₁, like toast soaked in hot water.

E-F, sweet, rather strong, like licorice, a troche.

F-g, mild, gravy-like.

g-c⁴, banana, smooth, slippery.

c⁴-c⁵, thin, insipid.

On the violin, lowest three notes, troche flavor.

From there up, grows sweeter, loses strength, becomes clear, delicate and sweet in flavor. The rubbing of a nail or file evoked a temperature experienced in the mouth, this being hot or cold according to the kind or degree of scraping.

In the case reported by Downey¹⁸ the following may be noted:
 Liminal bitter (.0003 quinin), dull orange red, becoming more pronounced as the solution increases in intensity.

Anise, brilliant black.

Sour solution, occasional flashes of green, which sometimes alternate with red.

Lemon-pineapple sherbet, very green, persistent.

Vanilla, tan or brown.

Lime-candy wafer, golden.

Myers¹⁹ reports a case in which the synæsthesias are stated to be non-imaginal, though they must have had a clear perceptual character to have given rise to findings like these, with tuning-forks of different vibration rates:

256 brown.

300 brown to vermilion or pink.

400 brownish-pink.

500 rosy brown, brown or pink, becoming blue.

600 rich, dark blue.

700 mixed pink and blue, lilac.

800 light blue.

900 light blue.

1000 very light blue.

1100 very light blue.

1200 blue, shading off to gray.*

1300 thinnish blue.

At 3000 vibrations with the Galton whistle, a greenish tinge appeared in the blue. It was definitely green between 4000 and 12,000, but above 12,000 passed into a colorless gray.

Different color tones appeared according to whether the instrument used was a tuning-fork, a tone-variator or a *Tonmesser*, due, as would be inferred from Bleuler, to differences in overtones. As the fork "rings off" the induced colors become "higher," that is, shading towards gray.

A case reported by Myers¹⁹ some years later gives the following colors to the tuning-fork:

256 Prussian blue, clear blue.

300 blue streaked with violet.

400 clear dark violet—clear purple.

500 deeper than red, very deep golden, transparent.

600 opaque, streaky, perhaps black and flame color.

700 perhaps light green.

800 blue.

900 rather like 800.

1200 might be yellow, very translucent.

2048 getting yellow.

A Galton whistle tone of 6000 vibrations appeared green, higher tones becoming increasingly colorless.

A "spectral octave" in the case of an accomplished musician is reported as follows: "

Red.	Orange.	Yellow.	Green.	Blue.	Violet.
C G	D	A	E	B	F X

A case in which pain sensations evoke color perceptions is noted by Coriat." Testing pain spots with a hair *æsthesiometer* showed an increase in the intensity of a red sensation as the stimuli were increased by shortening the hair. The subject reported different colors to be evoked by different types of pain. A "hollow" pain gives a blue color; a shooting neuralgic pain, a white color.

There is observed a tendency of the *synæsthesias* to run in scales, which are proportional to the scales of the primary stimulation. This argues against their originating in associations of adult or infantile experience. Other evidence of the same probable import is that they may have different affective quality from the primary, inducing sensation, as noted by both Bleuler and Downey. To the former, words with *io* are unpleasant in sound, but agreeable in their induced photisms. Bleuler observes that the photisms are generally localized not in the visual, but in the auditory field. Downey's case of colored gustation localizes the photisms in the mouth.

Bleuler " regards the *synæsthesias* as originating endogenously, but not in associations. He considers them rather as cases in which the specific energy of the sensory nerves is not wholly "specific." He rejects the supposition that activities of one sensory center are transmitted to another sensory center. The regularity of the *synæsthesias* speaks rather for a general property of the cerebral substance to respond with all its various specific qualities to the stimuli through different end-organs. As a rule,

only one of these (the primary sensation) is in the foreground; the others come to awareness not at all or as synæsthesias.

Under these conditions, association would be promptly established between a sound and a color always perceived with it, as well as separately. Such association, while not innate, is governed by innate factors, and not by external experience.

Downey²¹ comments in another paper on expressions in language that counterfeit synæsthesia, but differ therefrom in being inconstant, unsystematic, and having rational associations near the surface. It is not synæsthesia to speak of red war, black looks, weather clear as a bell, clear blue optimism. Sometimes these counterfeit synæsthesias, *synopsies secondaires, provoquées* of Flournoy, acquire relative constancy. Bleuler mentions how a black and yellow pattern symbolizes Wednesday to him, through the pattern of the travelling bag of an aunt who visited his home on Wednesdays. On the other hand, the English use of *blue* to denote melancholy is contrary to the commoner associations of the color in life. A synæsthetic origin might be ascribed thereto, as Bleuler seems to think. Bleuler's²² observation that the photism of bitter is almost always "dark brown to black" may be the essential determinant of the figure "dark brown taste."

A tendency has been variously observed for numbers to arrange themselves in a definite pattern of visual imagery. Sometimes learned associations, as of the clock-face, appear to govern these. Again, these so-called "number forms" appear to resemble synæsthesias, in that a connection between the ideas is established independently of the will, extending as far back as memory, and constant. Bleuler²³ speaks of them as "instinctive." Heredity for number forms is postulated by Galton²⁴ and for synæsthesia by Calkins.²⁵ This is good evidence of innateness if the same secondary sensations are inherited. Myers²⁶ brings out that this is not always evident with synæsthesia, members of a family disagreeing in the color attaching to a given sound.

Lowie²⁷ has connected this general class of phenomena with the facts of pervasiveness in the symbols of myths and legends. He is impressed with the hereditary character of the number forms. Since primitive communities are made up largely of blood-relatives, symbolic meanings could grow upon numbers in this way. The same naturally applies to the more strictly synæsthetic phenomena.

Both synæsthesias and mechanisms of autistic thinking form associations foreign to the waking consciousness of ordinary life. The associations of synæsthesia, however, are restricted to the more elementary patterns of sensory qualities. They are not adequate to account for the types of symbolism common to mythology, dreams and psychoses. Brown may represent bitter, vanilla may represent green, but the gulf between these associations and such complex symbolisms as snake for phallus, air for male principle, water for female principle, is greater than most imaginations are prepared to leap. And it is only for the synæsthetic type of association that even slight evidence for hereditary transmission is adduced. If such transmission operated on higher levels, evolution would be expected to transmit, in consciousness, useful ideas, such as of mathematical relations, rather than an unconscious full of ideas generally harmful if acted upon. Autistic mechanisms are capable of accounting for the entire body of "archeopathic" symbols on an experiential basis, and there is evidence for but little of it being accounted for in other ways.

It is a growing conception that a great deal of "higher mental process" goes on in the mind of which the main personality is as little aware as it is of many normal organic processes. This thought, below the level of awareness, consists, like the thought of which we are aware, in the association and elaboration of experiences. But, whereas the thought of awareness is, in the normal mind, mainly governed by the logic of experience, that below the level of awareness is quite free from these restrictions and is "autistic" in Bleuler's² sense of the term. In this way, associations and symbolisms are formed which are not present to the conscious level of the mind. In the psychoses, these ideas do come to consciousness, dominate it, and give rise to delusions. They also come to the surface in the dream, where they give rise to symbolism that has been amply recorded. The two levels of thought are less distinct in the savage and in childhood than in more developed life. Whatever community exists between psychotic and primitive ideas (how much one sees depends a good deal on the selection of material) is due to regression in *modes* of thought. There is a regression to modes of thought which more characterize primitive man, but not to special topics of thought. If the topics of thought, the precise ideas associated, do happen

to correspond, this is because the primitive kinds of association (similarity, contiguity) lead in like directions for everyone. The ideas which are associations by similarity for the savage or child are associations by similarity for all. The community appears, not from a transmission of definite ideas through the ages, but because the same associative laws are operating upon the same general class of experiences."

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PSYCHOSES IN MENTAL DEFECTS.*

By ALFRED GORDON, M. D., PHILADELPHIA.

The present series of cases embraces all degrees of mental deficiency except idiocy. There were three imbeciles and 34 individuals with a mental status inferior to normal. Morons constituted the largest majority (24). The psychic disorders as they were manifest in the (37) cases presented themselves under two chief categories. In one, there was a greater or lesser intensification of the pre-existing mental characteristics which formed the basis of the constitutional make-up of the defects. In the other category, there were present psychoses common to all persons.

Group I.—Fifteen individuals presented during a period of five years at various times marked accentuation of their fundamental defective features in intellectual and moral spheres. *A propos* of various emotional factors, such as fright and minor accidents, there was present a decided intensification in the deficient mode of feeling and acting, also in the reaction to external stimuli. First of all, there was a definite arrest in intellectual acquisitions. One of the individuals during a process of mental training, which, as is well known, progresses in such cases only by small degrees and in an imperceptible manner, became listless and commenced to forget the slight amount of knowledge of arithmetic which he had acquired after laborious effort during a long period of time. It was also noticed that at times he would exhibit outbursts of violent anger with impulsive acts, by far more intense and more prolonged than prior to the accident. The former timidity became more pronounced; while he used to be very shy and hesitated greatly to face strangers and speak to them, now he isolated himself almost completely and absolutely refused to converse with anyone outside of his immediate relatives. Formerly he showed a certain degree of brutality towards his sisters and brothers. Once, for example, he attacked his older sister with scissors because she refused to hand him quickly a

* Read by title at the Seventy-fourth Annual Meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

part of her apple. He inflicted an injury to her arm and while the latter bled he stood immovable and laughed. Since the accident, during a period of three months he was unusually violent in his attacks on his relatives, including the parents. Upon the least refusal of gratifying his absurd wishes he attacked mercilessly anyone who happened to be near him; he would pick up heavy objects, such as vases and irons, and throw them, irrespective of consequences. Once he inserted his teeth into his mother's arm with such force that for several minutes it was impossible to remove him, in spite of the fact that the victim kept on screaming from pain. He became so unmanageable during these outbreaks that he had to be kept in bed, under restraint. The condition lasted three months, during which period of time it was impossible to make any progress in the mental training which he had been undergoing prior to the accident. Gradually the condition became ameliorated, the violent impulses became less and less pronounced and the boy returned to his former mental state, which only then made the resumption of his training possible.

In three boys of the same group after slight accidents and in four boys after a fright in addition to an arrest of progress in mental training, there was also an increase in pre-existing tendencies of various character of a serious nature. Sexual perversion, such as fetichism, Sadism, exhibitionism and homosexuality, was quite marked and very frequent police arrests followed. In five cases, in which the mental status of the defective individuals was not wholly understood by the parents, bodily punishment was not infrequently inflicted by the latter when the children have been unable by reason of their deficiency to carry out orders. The result was that an accentuation of the fundamental abnormal characteristics became very conspicuous. Great irritability was the most striking symptom; impulses of the most unusual kind followed. Moreover, in three cases there was a mild, delirious state accompanying each outburst of passion, of anger, or following a violent masturbating act. They soon recovered from the delirium. Very brief periods of confusion were also observed in some of this small group of individuals during their morbid impulses. One girl of 13 was severely punished by her older brother for a trifling offense. Immediately afterwards she was

thrown into such a state of depression that for hours she remained in her bed refusing food. Then suddenly she jumped off the bed, picked up a poker and attacked her mother, taking her for the wrong offender. While striking her she talked quite incoherently so that she could not be understood. About 20 minutes later the condition disappeared. During a period of four weeks she had frequent outbursts of fury with a desire of attacking far more violent than formerly, although she was always subjected to abnormal impulses.

The following deductions may be drawn from the observations concerning the 15 cases composing the first group: Following some emotional factor the defective mode of thinking, feeling and acting becomes intensified. The usual want of parallelism between the emotional and intellectual elements of the personality becomes accentuated; the inhibiting power of intelligence over the moral personality is reduced to a minimum; impulsive acts may reach their maximum in intensity and frequency; there may be either an increased emotivity with exaltation, during which extreme anger, violence and brutality are conspicuous, or else emotivity with greater depression, during which timidity and shyness are extreme and a tendency to solitude is striking. In all cases, morbid tendencies become more conspicuous. It seems that the cerebral centers, which are the source of ideas and of their association, are further reduced and withdrawn from the chain of mental activities; they now present not merely a deficiency, but utter collapse. The activities which otherwise in defective individuals are the result of a feeble struggle between feeble conscious reasoning and claims of passion are now entirely out of the field of this struggle.

Group II.—Twenty-two individuals constitute this group of defectives. Either following some special etiological factor or without an apparent cause, symptoms characteristic of classical psychoses developed. In the majority (17) the onset of the psychotic manifestations was preceded by some somatic or emotional disorder. Influenza, profuse diarrhoea, measles, mumps, bronchitis, on one hand, sudden fright and slight accidents, on the other, were all present.

The psychoses observed were: Maniacal and depressive states (12), paranoiac states (3) and delirious or confusional states

(7). There were more depressive than maniacal cases (9 to 3). This category included all adult cases. In the depressive subgroup the depression was not as profound as is observed in individuals with a former normal mentality. The sad appearance, pale faces with drawn features, expression of humility and deep suffering, complete immobility—this was the habitual picture characteristic of cases with mental depression. At no time were all these symptoms combined in the defectives. Those that were present showed a shallowness, a superficiality. On the other hand, none of the patients presented during the entire period a depression or a state of anxiety, such as are found in painful emotional states; there was no lamentation, no moaning, no exclamation—all of which are observed in cases of agitated depression. Indifference, apathy and indolence were all present, but at no time were there delusions. The latter were absent even in the most pronounced cases of depression, when the patients isolated themselves for days and even refused food. There was no case of true melancholia with unsystematized delusions of self-blame or of unpardonable sin. There was no tendency to suicide in any of the cases. The absence of delusions is to be expected in depressed defectives, if we take into consideration the elements and the underlying psychology of ideas and special interpretation of conceptions which require mental elaboration of complete character.

The maniacal cases presented special features worth mentioning. In one of them was an early violent outburst. A man of 27, who up to that age presented the usual characteristics of mental deficiency, developed suddenly, after a slight accident, a most pronounced maniacal state which lasted six weeks. Restlessness, talkativeness, increased rapidity of thought and verbal expressions, and increased motor activity, were all present, but they all bore the stamp of the previous mental state. Owing to the limited association of ideas there was no characteristic coloring, but there was one feature in my patients which deserves special mention; it was so constant that it may perhaps be considered of some diagnostic significance.

In individuals previously normal during a maniacal period, opposing ideas may be easily brought out because of the easy association of ideas, or else because of the restraint in which

such individuals are held. In these cases any opposition to the patients' wishes brings forward an intense feeling of self-esteem, followed by a strenuous protest against the opposition. Moreover, owing to the fact that the thoughts flow in great rapidity, the states of opposition and protest are not lasting and they are quickly substituted by other emotions, pleasurable ones among them. In the defectives, on the contrary, opposing ideas were not readily called up and when they made their appearance they were feeble. On the other hand, if an opposing idea happened to be conspicuous it persisted with great tenacity for some time. It was also observed that the above-mentioned feeling of exaggerated self-esteem as a consequence of enforced opposition was not at all as intense as we find it in non-defectives. Neither did I find the rapidity of transformation of psychic energy into multiplicity of associated ideas such as we observe in non-defectives. Again, owing to the underlying limitation of intelligence in general there was absent the quickness of comprehension, of wit or humor or sarcasm, which is so characteristic of maniacal exaltation. Accordingly, I failed to find here the manner of expressing in especially choice language, or hasty acts ill considered, or especially strong impulses, or special desire or longing for pleasurable emotions, which are all so typical of maniacal individuals. Briefly speaking, the psychomotor side of exalted mental activity was expressed here in a lesser degree than in cases of mania occurring in individuals with a previous moral mentality.

Another interesting symptom is found in the hallucinations. Contrary to the usual absence of hallucinations or to their fleeting character when they are present in maniacal attacks, here in the defectives hallucinations occurred more frequently and were more persistent. Moreover, in two cases the patients acted upon. A girl of 12 in one of the maniacal attacks of an unusual intensity saw "ugly faces" and was so frightened that she picked up a cup of very hot milk standing on the table and threw it at her sister standing in front of her. The other patient, a girl of 16, saw "the devil" and was in such a state of fright that she ran out of the house and while running kept on looking back and screamed as she saw the devil pursuing her. Illusions were constantly present in all the cases.

The depressive and maniacal outbreaks in various individuals did not run a parallel course as to their frequency and the mode of repetition. It was observed, generally speaking, that there were more individual phases of depression than exaltation. Two of the maniacal patients had but one attack of exaltation during a period of several years and only one patient had three attacks during two years. The depressive attacks, on the contrary, were frequent and in some cases very frequent. No patient of the series, however, had alternating attacks of one and of the other form of the manic-depressive psychoses. In the depressive cases there were only periods of depression; in the maniacal ones I observed solely periods of exaltation.

Paranoid states were present in three cases. Here disturbances are no more expected in the emotional and psychomotor spheres, but in the ideational realm. As the latter is originally of an inferior character in defectives any pathological modification of it incidentally occurring must per force be of an unusual composition. The disturbance of critical power, which plays so great a rôle in the formation of the systematized delusions, shows itself naturally in slight reflection and in superficial elaboration of ideas and deductions. For the same reason, the formation of delusions is not so easy or imperative, while in the normal type of paranoia the latter are formed with the greatest facility and readiness. The elements of the delusions which ordinarily develop out of imagination and defective judgment, assisted by errors of logic, are all here fundamentally defective and lead not only to abnormal creations, but are also defective in their abnormality; and accordingly the depression and apprehension which are constantly found in paranoiacs are not and cannot be as profound and as disturbing to the patient as in the habitual cases of paranoia. The characteristic abandonment of the patient without control to the delusional conceptions is not so striking here as in typical paranoia, because the ideational associations are here fundamentally defective. The reactions produced by external impressions are not as profound as in ordinary paranoiacs, as their relation to the originally defective individuals are not only perverted, but are defective in their perversion. The same peculiarity was also observed with regard to hallucinations. When the latter were present they were feebly used by the patients for the elaboration of their

delusions, contrary to what we observe in the majority of cases of typical paranoia in which the hallucinatory sphere is greatly implicated and is used for the development of delusions.

The character of delusions and hallucinations in paranoia makes the patient live in a world of errors and deception which are so characteristic of the disease; but by reason of defective ideational associations in mental defectives the errors and self-deception to which their delusions and hallucinations lead cannot be striking and conspicuous. Herein lies the substantial difference of the morbid states of non-defective and defective paranoiacs. When one considers the evolutionary period of life in a future paranoiac, one assists at a gradual change of the personality which later becomes a disease. One observes how all perceptions of the external world in early life have a special relation to the individual, inasmuch as he very early commences to consider them as facts which fundamentally concern his own personality. This is intensified by his inherently vivid imagination. As is well known, the paranoiacs belong to the dreamy, romantic and eccentric category of individuals, who with great facility elaborate ideas which at first remain in a latent state, but later develop into delusions. Such characteristic features underlie the real foundation of a future paranoiac. They show a constitutional abnormality of the character. On such a morbid basis, with the gradual growth of the individual, multiple impressions arising with age and accidental occurrences are all apt to create erroneous conceptions of the external world. At first there are only presumptions and suppositions, but later delusions and hallucinations.

When we consider the development of the personality and character in defectives, the observation changes. We fail to find here the special personality with eccentric tendencies; there is no intensity of imagination with regard to external impressions; there is no special tendency to refer the latter to himself or to herself; there is no rapid formation of imperative ideas; suspicions to create rapidly erroneous conceptions; hence, delusional ideas are not easily developed and when they do arise they lack in depth and in elaboration. Continuing the analysis of the comparative picture in both classes of paranoiacs we find a further difference. The phase of transformation of personality which is

usually present in the advanced stage of the fully developed disease is totally absent in the defective cases of paranoia if one has the opportunity to observe the individual during a sufficiently long period of time. The absence of this phase finds its explanation in its very nature. As is well known, it is characterized by excessive development of exalted ideas concerning the patient's own personality. As for the development of this manifestation, which becomes in fact predominant over other ideas, an extraordinary elaboration of ideational processes is essential. As indicated above, the latter cannot be expected in defectives, hence the phase of transformation of personality must correspondingly be totally wanting.

In pursuing further the development of the subject, the final stage of paranoia must be considered. The terminal period of the disease is characterized by a gradual development of mental weakness with gradual fading of the delusions and hallucinations. In the three defective individuals of my series such a phase was not observed. When the hallucinations and delusions began to disappear there was no gradual diminution in the intensity of the faulty beliefs or any change in the interpretation of the ideas or images, but a sudden disappearance of both for a brief period of time and later a reappearance of the same, then again a disappearance and a return. This occurred several times in succession, and then finally a total abolition of both took place. Moreover, there was no genuine diminution of power of reasoning; otherwise speaking, there was no real dementia such as we observe in paranoia. It was therefore no terminal stage, so to speak. The patients merely exhibited the same mental attitude as prior to the outbreaks of the paranoiac state.

If we recall all the characteristic features of the various phases of paranoia, and consider the incompleteness of the most important manifestations with the lack of depth in each of them by virtue of the fundamental defect of ideational processes in defective individuals, we are bound to admit that there is no paranoia in the latter. The disease as an entity cannot develop in them for the above reasons. Delusions and hallucinations of a paranoiac character may occur in defectives, but their development and their relation to the defective personality, the entire attitude of the individual to the external world, the course of the condi-

tion and the termination of the latter, are all not of the kind which we observe in the classical psychosis. Not paranoia as a clinical entity, but paranoid states are met with in individuals with mental deficiency.

The last sub-group of my series comprises seven cases with delirious or confusional states. Three individuals were convalescing from influenza, one from typhoid fever, and in three of them a fright had preceded the onset of the mental disorder. Five patients had delirium with confusion, two only confusion.

In confusional states the mental operations are disintegrated. The ego no longer presents a union of individual elements of the mental mechanism. The ideas are consequently vague and ideational association is abnormal, so that a confusional individual uses words without special meaning to him; of his former ideas and conceptions only glimpses are left. He expresses his fragmentary ideas and notions in a demented manner and therefore without all associations, so that purposeful acts are not possible.

When we attempt to find these diagnostic elements in mental defectives we observe that not only they are present, but they are in the most intense and conspicuous form. Irrespective of any superimposed psychosis the mentality of these individuals is characterized essentially by a quantitative and qualitative deviation from normal. Appreciation and meditation are not only superficial, but abnormal. There is a fundamental defect in association of ideas, so that the acts are of a reflex nature. The whole life of defectives, generally speaking, is composed of incidents of an instinctive nature, as judgment and will power are wanting. When a confusional element is added it stands to reason that defective ideas will be still more vague and ideational associations more abnormal. A confused defective's words will have still less meaning to him than in a formerly normal individual. If in ordinary cases remnants of former ideas and conceptions are left, in a defective who is under the influence of a confusional outbreak the sentences uttered and actions executed show an absolute lack of such remnants and give the impression as if the individual were devoid of all thinking power. If in an ordinary case of confusion, the individual acts in a demented manner; a defective individual in such cases behaves like an imbecile or idiot.

In some of my cases to the confusion was added a delirious element. As is well known, in the latter there is a deep involvement of the sensorium, especially in the form of hallucinations and the suppression of the faculties of attention and reflection. The disturbed sensorium creates delusions. In the five defective individuals of the series there was confusion with a delirious state. The attitude of these individuals, such as appearance, motions with the hands, sudden and repeated turning of the head, suggested the existence of auditory and visual hallucinations. As to the delirium itself it was throughout in all the cases of a muttering character and at no time in the form of anxious excitement. Since the faculty of reflection based on association of ideas is rudimentary in defectives, and an involvement of the sensorium cannot be deep in these individuals, the elaboration of delusions and hallucinations cannot, fundamentally, be strong and conspicuous. Thus the muttering and not the excitement with anxiety of the delirium in ordinary cases was to be expected. The muttering was unintelligible, fragments of words could be heard occasionally; the patient preserved a uniformly quiet and undisturbed attitude throughout the delirious states, which in some cases occurred several times.

One of the most interesting phenomena in the last group of cases was that the mental state of each individual suffered considerably following each attack of confusion or delirium. The individuals' intellectual *niveau* became greatly lowered and all the faculties and functions depending on it were correspondingly affected. The inhibiting power was reduced to a minimum, and for this reason the defectives who possessed an emotivity with exaltation exhibited unusual impulsiveness, extreme anger, violence and conspicuous brutality; while those who possessed an emotivity with depression exhibited extreme timidity. Those who prior to the psychoses showed various perversions, now exhibited a deeper development of the latter.

Conclusions.—The present study reveals the fact that the intellectual and emotional peculiarities and abnormalities of defective individuals become more conspicuous when additional psychotic disturbances are superimposed. Each individual characteristic in the various faculties, which being combined constitute the mental personality, becomes mobile and is given a greater oppor-

tunity for displaying its influence upon the defective's attitude, behavior and general mode of acting and feeling. To the observer is given an opportunity to measure and estimate the degree and intensity of deficiency in the various characteristic features of the defective individual, because of its modifying effect on the habitual manifestations of a psychosis. The impress that mental deficiency leaves on psychoses, viz., depressive, maniacal, paranoid, delirious and confusional, is that they are modified in their typical manifestations because of the fundamental defect in the formation and association of ideas. On the other hand, the psychoses have reciprocally their modifying effect upon the basal mental deficiency; they produce such a profound disturbance in the latter that the recovery from the superadded incidental psychoses is always followed by a deeper diminution of mental power in the original mental status. The reason of it probably lies in the fact that the psychoses disappear invariably more slowly than in non-defective individuals. For the same reason probably it is more difficult to obtain favorable results from therapeutic efforts. The prognosis is therefore more serious in psychoses of defectives than of non-defectives. When the psychoses disappear instead of recovery we witness a greater reduction in the intellectual horizon than before the psychoses had developed.

THE CORRELATION BETWEEN MENTAL DEFECT AND ANOMALIES OF THE HARD PALATE.¹

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In order to determine whether a correlation exists between mental defect and defects of the hard palate, it is necessary to make casts of the palates of a great many normal and abnormal individuals in order to compare them in a definite and specific way. The only published work along this line is that of Channing and Wissler (1), 1905.

But ever since 1600 it has been recognized that a deformed palate is very frequently present in the feeble-minded. The frequency of the pathological palate has been testified to by many investigators. Church and Peterson (2) say: "The frequency of the pathological palate among marked degenerates, such as the insane, idiots and epileptics has been stated by many investigators. Talbot reported 43% of abnormal palates in 1605 inmates in institutions for the feeble-minded. Ireland makes it nearer 50%. Charon found abnormal palates in 10% of apparently normal persons, in 82% of idiots and feeble-minded, in 76% of epileptics, 80% in cases of insanity in general, 70% in the hysterical insane, and 35% in cases of dementia paralytica."

Ireland (4) says: "As an accompaniment of genetous idiocy the palate is narrow, the space between the bicuspid and the molars of the opposite sides being diminished. The height of the palatal arch is at the same time increased at the expense of the cavity of the nares. In most cases of vaulted palate the symmetry of the normal curve of the dental arch is much impaired." However, he decidedly says that "the vaulted palate does not occur in all genetous idiots. In some cases the palate is normal, but undoubtedly the deformity is very common." Ireland quotes T. S. Clouston as saying in his "Neuroses of Development" that

¹ This research was undertaken at the Psychopathic Laboratory of the University of Chicago, under the direction of Dr. H. C. Stevens, to whom the writer offers grateful acknowledgment for advice and assistance in the preparation of this report.

"there are over three times more deformed palates among idiots and congenital imbeciles than amongst the sane. Only one-tenth of the idiot palates are typical, while over two-thirds of them are deformed. Less than one-fifth of the palates of the average population are deformed. A deformed palate is also found to be more frequent with the insane and epileptic than with normal persons." (Edinburgh, 1891.)

Peterson (5) says, "Show me your palate and I will probably be able to tell you whether you belong to the great class tainted by heredity, comprising many insane, imbecile, feeble-minded, epileptic, hysterical, etc., individuals." No doubt this would be considered a highly exaggerated statement at the present time. But that is just our problem: to see if we can truthfully say that all defective palates mean a defective mentality. Or should we take into consideration the growth of the head, *i. e.*, its length, breadth, circumference, etc., as determining to some extent, at least, the size and shape of the palate? Further, in a condition of feeble-mindedness, will not other stigma coexist besides the defective palate, such as cranial anomalies, defects of the heart and lungs, changes in the reflexes of the body, etc.? Is it fair to say that if only a defective palate is present, that feeble-mindedness exists?

No doubt it would be of great diagnostic value to be able to make such a statement, to know that there was this definite, outward, visible sign of inward disturbance.

Peterson examined 1000 insane, 100 criminals, 600 idiots, and 500 neuropaths (casts were not made) and found asymmetry of the palate very common, and occasionally the only noteworthy peculiarity. This latter fact is to be questioned. Is it not usual to find asymmetry of the face and skull in cases of asymmetry of the palate? May it not be that such asymmetry (or any departure from the normal structure of the palate) is in many cases simply a concomitant of other deviations of the size and shape of the head, etc.

Tredgold (9) says, "The association of abnormalities of the palate with mental deficiency has long been recognized, and there is no doubt that it is one of the commonest malformations occurring in this condition." He quotes Clouston "Neuroses of Development," 1891, who has recorded a large number of observa-

tions which show conclusively that although deformed palates occur in the normal, they are far more frequent in neuropaths and the mentally defective. He states that deformed palates are present in 19% of the ordinary population, 33% of the insane, 55% of criminals, but in no less than 61% of idiots.

Talbot (7) says, "Langdon Down called the attention of the medical profession to the fact that high vaults, as well as irregularly shaped jaws, were very common among idiots and congenital imbeciles." He says: "My studies prior to 1887 not only show high and contracted arches among sane individuals as well as idiots, but that they also frequently occur among the deaf, dumb, blind, insane, criminal, drunkards, neurotics and degenerates generally. It will be noticed, therefore, that no particular class of individuals is exempt from these deformities. So a high vault is not due to mental weakness." (But it might be said that all forms of degeneracy mentioned here are manifestations of mental weakness of some sort.)

Talbot (7) quotes Dr. Claye Shaw as saying that "there is no necessary connection between a high palate and the degree of mental capacity of the individual."

Thus we see that there have been advanced arguments both for and against the idea that a defective palate indicates a defective mentality.

In the work of Channing and Wissler, they have concluded from a study of about 1500 casts, 1000 abnormal and 500 normal, that the absolute size of the palate for the three following measurements seems to be the same for feeble-minded as for normal: Width at the canines; width at the molars; and length from the alveolar point to a line connecting the first molars. But they do find a relatively small difference in the variability of these dimensions, the feeble-minded showing greater variation. However, as to the height of the palate, they find that while there is no real difference for adult males, that for children has the character of a real difference. The female children show no such difference, for while the average height for the abnormal is absolutely greater than for the normal, the difference is within the range of accidental deviation from the type.

The present report is upon the measurements of casts obtained from children appearing before the Psychopathic Laboratory of

the University of Chicago for examination. The number of casts is as follows:²

	Male.	Female.	Total.
Normal	5	3	8
Abnormal	28	10	38
	—	—	—
Total	33	13	46

The specific measurements to be reported on are the same as those reported by Channing and Wissler, namely:

A. The minimum distance between the first molars, measured horizontally from the bases of the molars.

B. The maximum height of the palate, measured from the plane of the gum line.

C. The distance from the line connecting the two first molars to the alveolar point.

D. The distance between the canines, measured horizontally from their bases.

In addition to these four measurements, any asymmetry of the palate was noted, and also the length, breadth and circumference of the head, and mental age, as determined by the Yerkes-Bridges Point Scale Test.

The casts were made by first taking an impression of the upper teeth and hard palate upon dentists' modelling compound, a hard substance which when placed in hot water softens into a gum. The softened compound was carefully smoothed out onto a small tray which fitted into the mouth so as to include all of the teeth. An impression of the teeth and palate was made upon the modelling compound when the tray was pressed firmly against the roof of the mouth. The tray was then removed from the mouth, and a thin paste of dental plaster was poured into the impression and allowed to harden, after which the plaster cast was easily separated from the modelling compound when placed in hot water.

² Although the number of normal subjects examined is quite small, the results are identical with those of Channing and Wissler, in that the palate in abnormal individuals tends to be higher than in the normal. The writer feels justified, therefore, in the attempt to show that this increased height in abnormal individuals is not diagnostic of mental defect, but depends, rather, upon the shape and size of the head.

The instrument used to measure the casts was especially made by the mechanician at the University of Chicago, and consisted of a hard rubber horizontal bar, calibrated at one end, in which was set a screw which turned at each end. Attached to the horizontal bar was a calibrated vertical shaft, to which an adjustable rod was fixed in such a way that the measures of the length and

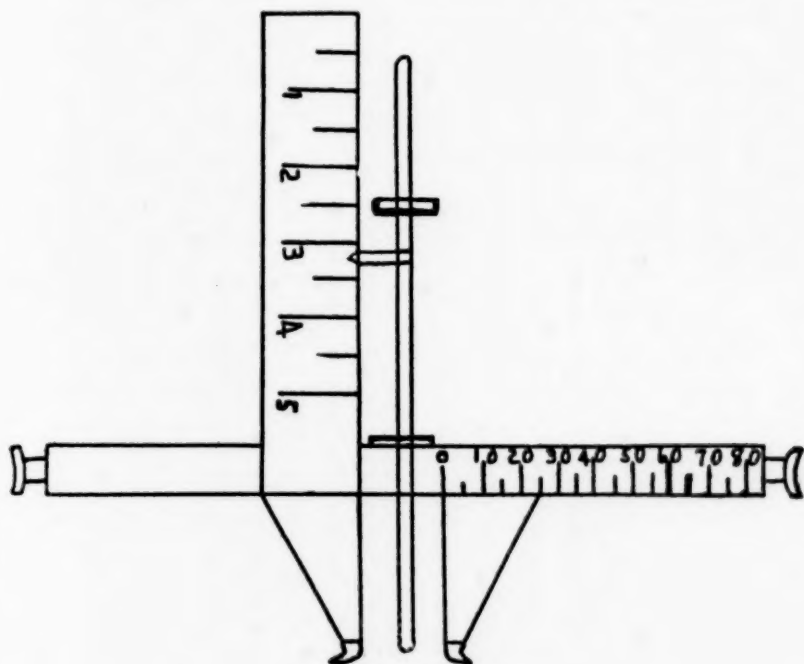


FIG. 1.

height of the palate were easily read off from the scale attached to the shaft. By means of inside calipers, the width of the cast at the two places desired (distance between the canines and between the first molars) was easily measured along the horizontal shaft. (See Fig. 1.)

TABLE I.—DISTANCE BETWEEN THE FIRST MOLARS. (A.)

Normal Individuals.		Abnormal Individuals.	
Male.	Female.	Male.	Female.
<i>Subj. Age.</i>	<i>Subj. Age.</i>	<i>Subj. Age.</i>	<i>Subj. Age.</i>
R. S. 4	E. R. 5	E. S. 6	I. V. 9 31.50
J. V. 5	R. R. 8 34.00	F. S. 7 31.00	J. T. 9 34.50
F. F. 6 31.25 mm.	M. S. 9 30.50	L. C. 7 34.50	E. L. 10 33.00
B. B. 12 34.50		A. S. 7½ 34.25	B. B. 11 37.00
A. S. 14 38.00		F. O. 8 32.00	C. V. 11 31.50
		J. H. 8 31.00	M. V. 12 28.50
Average 34.58	32.25	P. F. 9 31.25	T. B. 12 35.25
S. D.... 2.75	1.75	T. W. 10 38.50	S. S. 12 35.00
P. E.... 1.07	.833	J. V. 10 35.00	M. L. 15 36.00
		M. Z. 11 37.00	E. B. 17 30.00
		J. P. 11 33.00	
		J. L. 12 38.00	
		H. A. 12 33.50	
		G. L. 12 32.00	
		S. R. 12 31.00	
		J. H. 12 31.00	
		L. H. 13 29.00	
		L. R. 14 31.00	
		M. K. 14 36.00	
		M. B. 14 42.25	
		L. R. 15 39.00	
		F. S. 16 35.00	
		F. R. 16 35.00	
		J. L. 16 35.50	
		I. B. 17 35.00	
		A. E. 17 29.00	
		F. B. 17 29.75	
		O. K. 18 38.00	
		Average 33.98	33.23
		S. D.... 3.29	2.63
		P. E.... .427	.563

TABLE 2.—HEIGHT. (B.)

Normal Individuals.		Abnormal Individuals.	
Male.	Female.	Male.	Female.
<i>Subj. Age.</i>	<i>Subj. Age.</i>	<i>Subj. Age.</i>	<i>Subj. Age.</i>
R. S. 4 6.0 mm.	E. R. 5 9.0	E. S. 6 9.50	I. V. 9 11.00
J. V. 5 6.5	R. R. 8 9.25	F. S. 7 7.00	J. T. 9 12.25
F. F. 6 12.0	M. S. 9 10.00	L. C. 7 5.00	E. L. 10 13.00
B. P. 12 7.0		A. S. 7 13.00	B. B. 11 9.25
A. S. 14 12.0		F. O. 8 7.00	C. V. 11 12.00
Average 8.7	9.42	J. H. 8 11.50	M. V. 12 11.75
S. D. ... 2.71	.42	P. F. 9 12.00	T. B. 12 15.00
P. E. .... .817	.164	T. W. 10 6.50	S. S. 12 13.50
		J. V. 10 11.75	M. L. 15 7.00
		M. Z. 11 17.00	E. B. 17 18.00
		J. P. 11 14.25	
		J. L. 12 6.75	
		H. A. 12 12.50	
		G. L. 12 8.25	
		S. R. 12 11.50	
		J. H. 12 14.00	
		L. H. 13 9.25	
		L. R. 14 15.50	
		M. K. 14 5.50	
		M. B. 14 13.00	
		L. R. 15 7.00	
		F. S. 16 14.75	
		F. R. 16 19.00	
		J. L. 16 17.50	
		I. B. 17 17.25	
		A. E. 17 19.00	
		F. B. 17 10.00	
		O. K. 18 15.00	
		Average 11.79	12.284
		S. D. ... 4.12	2.84
		P. E. ... .545	.608

TABLE 3.—LENGTH FROM ALVEOLAR POINT TO A LINE CONNECTING THE FIRST MOLARS. (C.)

Normal Individuals.		Abnormal Individuals.	
Male.	Female.	Male.	Female.
<i>Subj. Age.</i>	<i>Subj. Age.</i>	<i>Subj. Age.</i>	<i>Subj. Age.</i>
R. S. 4	E. R. 5	E. S. 6	I. V. 9 26.00
J. V. 5	R. R. 8 29.50	F. S. 7 29.00	J. T. 9 28.00
F. F. 6 28.00 mm.	M. S. 9 24.00	L. C. 7 31.00	E. L. 10 33.50
B. B. 12 29.00		A. S. 7 32.00	B. B. 11 30.50
A. S. 14 28.75		F. O. 8 27.75	C. V. 11 28.00
Average 28.58	26.75	J. H. 8 28.50	M. V. 12 14.00
S. D.... .42	2.75	P. F. 9 29.75	T. B. 12 33.00
P. E.... .164	1.308	T. W. 10 34.00	S. S. 12 29.50
		J. V. 10 30.00	M. L. 15 23.00
		M. Z. 11 29.50	E. B. 17 30.00
		J. P. 11 27.50	
		J. L. 12 27.75	
		H. A. 12 24.00	
		G. L. 12 25.50	
		S. R. 12 31.00	
		J. H. 12 29.00	
		L. H. 13 30.00	
		L. R. 14 28.00	
		M. K. 14 29.90	
		M. B. 14 29.25	
		L. R. 15 31.50	
		F. S. 16 25.50	
		F. R. 16 34.50	
		J. L. 16 24.50	
		I. B. 17 26.00	
		A. E. 17 31.00	
		F. B. 17 25.25	
		O. K. 18 31.00	
		Average 28.99	27.55
		S. D.... 3.21	5.39
		P. E.... .418	1.050

TABLE 4.—DISTANCE BETWEEN THE CANINES. (D.)

Normal Individuals.		Abnormal Individuals.	
Male.	Female.	Male.	Female.
<i>Subj. Age.</i>	<i>Subj. Age.</i>	<i>Subj. Age.</i>	<i>Subj. Age.</i>
R. S. 4 22.75 mm.	E. R. 5 22.00	E. S. 6 22.75	L. V. 9 23.00
J. V. 5 26.00	R. R. 8 25.00	F. S. 7 22.00	J. T. 9 24.00
F. F. 6 24.00	M. S. 9 26.00	L. C. 7 17.75	E. L. 10 20.00
B. B. 12 23.00		A. S. 7½ B. B. 11 25.00	
A. S. 14 24.50		F. O. 8 24.00	C. V. 11 23.00
		J. H. 8 22.00	M. V. 12 23.00
Average 24.05	24.33	P. F. 9 24.75	T. B. 12 23.75
S. D.... 1.16	1.69	T. W. 10 29.75	S. S. 12 24.00
P. E.... .352	.661	J. V. 10 21.25	M. L. 15 E. B. 17 21.00
		M. Z. 11 27.50	
		J. P. 11 J. L. 12 27.00	
		H. A. 12 32.00	
		G. L. 12 S. R. 12 27.00	
		J. H. 12 31.50	
		L. H. 13 25.00	
		L. R. 14 24.00	
		M. K. 14 25.00	
		M. B. 14 26.75	
		L. R. 15 29.00	
		F. S. 16 F. R. 16 21.00	
		J. L. 16 24.50	
		I. B. 17 23.00	
		A. E. 17 21.00	
		F. B. 17 21.00	
		O. K. 18 21.00	
		Average 24.60	22.97
		S. D.... 3.55	1.47
		P. E.... .489	.331

TABLE 5.—STANDARD DEVIATIONS.¹

	NORMAL		ABNORMAL	
	Male.	Female.	Male.	Female.
A. Width, molars	2.75	1.75	3.29	2.63
B. Height	2.71	.42	4.12	2.84
C. Length .....	.42	2.75	3.21	5.39
D. Width, canines	1.16	1.69	3.55	1.47

The standard deviation is significant of the amount of variability, and it can be seen from the above table that this variability is considerably higher in the abnormal palate than in the normal. This is to be expected if our contention is true—that the size of the palate (as will be brought out later) correlates with the shape and size of the head. The abnormal palate varies more than the normal because the shape and size of the head vary more in abnormal than in normal individuals.

When the averages of the abnormal and the normal palate are compared for the various measurements, it becomes evident that a true difference exists only in the case of the height of the palate. (See Table 6.)

TABLE 6.—TABLE OF DIFFERENCES.

DIFFERENCES BETWEEN THE AVERAGES OF THE ABNORMAL AND NORMAL, FOR THE FOUR MEASUREMENTS TAKEN.²

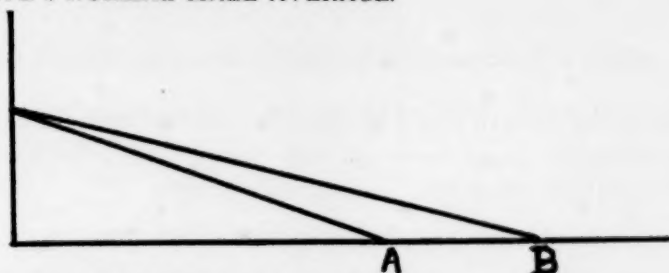
Measurement.	Ages.	Male Differences.	Female Differences.
A. Width, molars	4-18	— .60 ± 1.15 (P. D.) ³	+ .98 ± 1.02
B. Height	4-18	+ 3.09 ± .98	+ 2.86 ± .63
C. Length	4-18	+ .41 ± .45	+ .80 ± 1.68
D. Width, canines	4-18	+ .55 ± .60	— 1.36 ± .74

¹ From Tables 1-4.

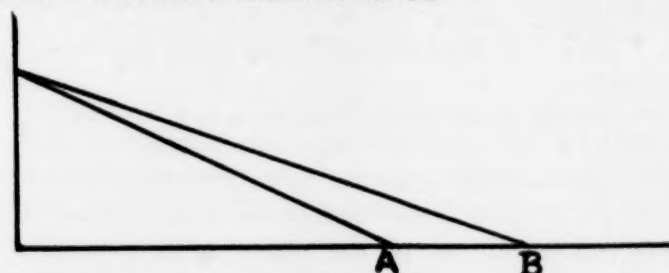
² From Tables 1-4.

³ P. D. = Probable Difference. If the difference between the two averages to be compared is greater than the P. D., then the probabilities are high that the difference is a real one. It is evident from the table that the probabilities of a real difference are greatest in the case of the height of the palate (measurement B).

CURVE I NORMAL MALE AVERAGE.



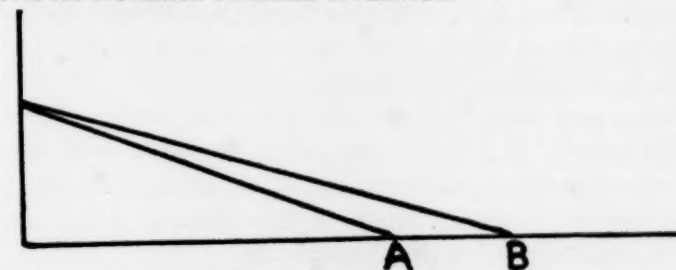
CURVE II ABNORMAL MALE AVERAGE



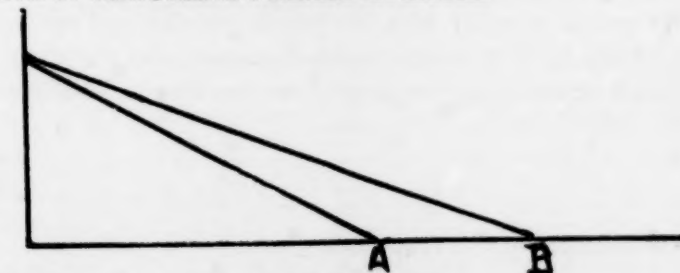
NORMAL MALE AVERAGE LENGTH.

ABNORMAL MALE AVERAGE LENGTH.

CURVE III NORMAL FEMALE AVERAGE.



CURVE IV ABNORMAL FEMALE AVERAGE.



NORMAL FEMALE AVERAGE LENGTH.

ABNORMAL FEMALE AVERAGE LENGTH.

The height of the palate is represented along the vertical, and the width along the horizontal.

Point A represents the width at the canines and Point B the width at the molars. Each of these points is connected with the point on the vertical representing the height.

The length of the palate is designated by straight lines.

As to measures A, C and D, the differences between the normal and abnormal range from .41 mm. to 1.36 mm., the greatest difference here being in C (female difference):

-1.36 \pm .74, which may reach 2.48 mm.

But this difference is small compared to that of B (height of palate):

Male +3.09 \pm .98, which may reach 4.07 mm.

or

Female +2.86 \pm .63, which may reach 3.49 mm.

We might conclude from this that the probabilities are high that there is a real difference between normal and abnormal individuals only in the case of the height of the palate, and that there is no significant difference in the case of the remaining three measurements.

Now, the question arises as to whether this increased height of the palate in abnormal individuals is a diagnostic symptom of mental defect, *i. e.*, is there a correlation between the height of the palate and mental ability, or is the increased height of the palate in abnormal individuals due to other causes? For example, the shape and size of the head may materially influence the height of the palate. If a correlation can be shown to exist between the measurements of the head and of the palate, it becomes evident that the increased height of the abnormal palate may be due to conditions other than mental ones.

The following tables (7-14) show the various measurements of the palate, together with the length, breadth and circumference of the head of each individual studied, and the norm for each such measurement, as given in the Stoelting Table of Norms.

TABLE 7.—MEASUREMENTS OF THE PALATE OF NORMAL MALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Height.	Length.	Width at Canines.	Width at Molars.	Asymmetry.
R. S.....	4	4	6.0mm.	.....	22.75mm.	.....	+
J. V.....	5	5	6.5	.....	26.00	.....	++
F. F.....	6	6	12.0	28.00mm.	24.00	31.25	++
B. P.....	12	12	7.0	29.00	23.00	24.50	+
A. S.....	14	14	12.0	28.75	24.50	38.00	++
Average. ....	.....	.....	8.7	28.58	24.05	34.58	

TABLE 8.—MEASUREMENTS OF THE HEAD OF NORMAL MALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Circumference.	Norm.	Length.	Norm.	Breadth.	Norm.
R. S.....	4	4	.....	.....	.....	.....	.....	.....
J. V.....	5	5	20.12in.	20.45	16.7cm.	17.6	13.0cm.	14.1
F. F.....	6	6	20.75	20.45	17.5	17.7	13.7	14.2
B. P.....	12	12	21.25	20.94	16.7	18.3	14.7	14.5
A. S.....	14	14	21.19	21.21	17.1	18.7	14.2	14.7
Average. ....	.....	.....	20.83	20.76	17.0	18.1	13.9	14.4

TABLE 9.—MEASUREMENTS OF THE PALATE OF NORMAL FEMALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Height.	Length.	Width at Canines.	Width at Molars.	Asymmetry.
E. R.....	5	5.6	9.00	.....	22.00	.....	+
R. R.....	8	8.6	9.25	29.50	25.00	34.00	+
M. S.....	9	9.6	10.00	24.00	26.00	30.50	+
Average. ....	.....	.....	9.42	26.75	24.33	32.25	

TABLE 10.—MEASUREMENTS OF THE HEAD OF NORMAL FEMALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Circumference.	Norm.	Length.	Norm.	Breadth.	Norm.
E. R.....	5	5.6	19.75	20.00	16.5	17.4	12.3	13.8
R. R.....	8	8.6	20.75	20.26	16.9	17.5	13.0	14.0
M. S.....	9	9.6	20.13	20.29	16.8	17.6	13.1	14.1
Average. ....	.....	.....	20.21	20.18	16.7	17.5	12.8	14.0

TABLE II.—MEASUREMENTS OF THE PALATE OF ABNORMAL MALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Height.	Length.	Width at Canines.	Width at Molars.	Asymmetry.
E. S.....	6	6	9.50	.....	22.75	.....	++
F. S.....	7	7	7.00	29.00	22.00	31.00	++
L. C.....	7	.....	5.00	31.00	17.75	34.50	Keel.
A. S.....	7.5	6	13.00	32.00	.....	34.25	—
F. O.....	8	8	7.00	27.75	24.00	32.00	+
J. H.....	8	5+	11.50	28.50	22.00	31.00	++
P. F.....	9	6	12.00	29.75	24.75	31.25	+
T. W.....	10	10	6.50	34.00	29.75	38.50	++
J. V.....	10	.....	11.75	30.00	21.25	35.00	++
M. Z.....	11	8	17.00	29.50	27.50	37.00	++
J. P.....	11	5	14.25	27.50	.....	33.00	++
J. L.....	12	4	6.75	27.75	27.00	38.00	++
H. A.....	12	9.7	12.50	24.00	32.00	33.50	++
G. L.....	12	8.5	8.25	25.50	.....	32.00	++
S. R.....	12	9.5	11.50	31.00	27.00	31.00	++
J. H.....	12	12	14.00	29.00	31.50	31.00	+++
L. H.....	13	10	9.25	30.00	25.00	29.00	++
L. R.....	14	14	15.50	28.00	24.00	31.00	—
M. K.....	14	11.5	5.50	29.90	25.00	36.00	++
M. B.....	14	8.5	13.00	29.25	26.75	42.25	++
L. R.....	15	10	7.00	31.50	29.00	39.00	+
F. S.....	16	16	14.75	25.50	.....	35.00	++
F. R.....	16	14	19.00	34.50	21.00	35.00	++
J. L.....	16	12.5	17.50	24.50	24.50	35.50	++
I. B.....	17	15+	17.25	26.00	23.00	35.00	++
A. E.....	17	17	19.00	31.00	21.00	29.00	++
F. B.....	17	7.2	10.00	25.25	21.00	29.75	+
O. K.....	18	18	15.00	31.00	21.00	38.00	++
Average.....	.....	.....	11.79	28.99	24.60	33.98	.....

TABLE 12.—MEASUREMENTS OF THE HEAD OF ABNORMAL MALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Circumference.	Norm.	Length.	Norm.	Breadth.	Norm.
E. S.....	6	6	20.40	20.45	17.7	17.7	14.2	14.2
F. S.....	7	7	20.81	20.48	17.6	17.9	13.2	14.2
L. C.....	7	.....	21.50	20.48	17.2	17.9	13.1	14.2
A. S.....	7.5	6	19.00	20.48	17.5	17.9	14.5	14.2
F. O.....	8	8	19.60	20.51	16.7	18.0	14.8	14.3
J. H.....	8	5+	19.75	20.51	15.9	18.0	13.1	14.3
P. F.....	9	6	21.00	20.61	16.4	18.1	14.7	14.4
T. W.....	10	10	21.50	20.73	17.9	18.2	13.5	14.4
J. V.....	10	.....	16.56	20.73	15.1	18.2	13.1	14.4
M. Z.....	11	8	20.50	20.82	15.4	18.3	15.3	14.5
J. P.....	11	5	20.50	20.82	15.9	18.3	14.2	14.5
J. L.....	12	4—	19.50	20.94	16.4	18.3	14.8	14.6
H. A.....	12	9.7	.....	.....	.....	.....	.....	.....
G. L.....	12	8.5	20.25	20.94	16.6	18.3	13.5	14.6
S. R.....	12	9.5	21.00	20.94	16.9	18.3	13.7	14.6
J. H.....	12	12	.....	.....	.....	.....	.....	.....
L. H.....	13	10	.....	.....	.....	.....	.....	.....
L. R.....	14	14	21.50	21.21	18.0	18.7	14.5	14.7
M. K.....	14	11.5	.....	.....	.....	.....	.....	.....
M. B.....	14	8.5	20.63	21.21	15.7	18.7	15.2	14.7
L. R.....	15	10—	.....	.....	.....	.....	.....	.....
F. S.....	16	16	21.50	21.67	18.5	19.1	15.5	14.9
F. R.....	16	14	20.50	21.67	17.1	19.1	13.3	14.9
J. L.....	16	12.5	21.25	21.67	17.1	19.1	13.9	14.9
I. B.....	17	15+	22.25	21.87	19.4	19.2	15.4	15.0
A. E.....	17	17	22.00	21.87	19.5	19.2	15.0	15.0
F. B.....	17	7.2	19.44	21.87	15.7	19.2	13.8	15.0
O. K.....	18	18	.....	.....	.....	.....	.....	.....
Average. ....	.....	.....	20.50	21.02	17.0	18.4	14.2	14.6

TABLE 13.—MEASUREMENTS OF THE PALATE OF ABNORMAL FEMALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Height.	Length.	Width at Canines.	Width at Molars.	Asymmetry.
I. V.....	9	8	11.00mm.	26.00mm.	23.00mm.	31.50mm.	+
J. T.....	9	2—	12.25	28.00	24.00	34.50	++
E. L.....	10	7	13.00	33.50	20.00	33.00	++
B. B.....	11	7.5	9.25	30.50	25.00	37.00	++
C. V.....	11	10	12.00	28.00	23.00	31.50	+
M. V.....	12	8	11.75	14.00	23.00	28.50	++
T. B.....	12	8	15.00	33.00	23.75	35.25	+
S. S.....	12	11	13.50	29.50	24.00	35.00	+
M. L.....	15	11	7.00	23.00	.....	36.00	++
E. B.....	17	7.7	18.00	30.00	21.00	30.00	++
Average.....	.....	.....	12.28	27.55	22.97	33.23	.....

TABLE 14.—MEASUREMENTS OF THE HEAD OF ABNORMAL FEMALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Circumference.	Norm.	Length.	Norm.	Breadth.	Norm.
I. V.....	9	8	19.75in.	20.29	16.3cm.	17.6	12.0cm.	14.0
J. T.....	9	2—	20.00	20.29	17.5	17.6	14.1	14.0
E. L.....	10	7	19.50	20.43	18.5	17.7	14.0	14.2
B. B.....	11	7.5	22.00	20.54	16.5	18.0	13.9	14.2
C. V.....	11	10	18.75	20.54	15.5	18.0	12.3	14.2
M. V.....	12	8	19.50	20.78	16.0	18.0	12.2	14.3
T. B.....	12	8	20.25	20.78	17.8	18.0	13.1	14.3
S. S.....	12	11	21.25	20.78	16.9	18.0	14.0	14.3
M. L.....	15	11	.....	.....	.....	.....	.....	.....
E. B.....	17	7.7	.....	.....	18.0	18.5	15.0	14.6
Average.....	.....	.....	20.13	20.55	17.0	17.9	13.4	14.2

On the basis of the preceding tables (7-14) the following coefficients of correlation have been worked out to show the relation between the various measurements of the palate and the length, breadth and circumference of the head:

TABLE 15.—COEFFICIENTS OF CORRELATION BETWEEN MEASUREMENTS OF THE PALATE AND MEASUREMENTS OF THE HEAD.

HEIGHT OF PALATE.	NORMAL		ABNORMAL	
	Male.	Female.	Male.	Female.
With length of head .....	.91	.82	.70	.64
With breadth of head .....	.88	.83	.87	.79
With circumference of head .....	.89	.64	.55	.78
LENGTH OF PALATE.				
With length of head .....	.98	1.00	.59	.67
With breadth of head .....	.99	1.00	.75	.62
With circumference of head .....	.86	1.00	.57	.47
PALATE, WIDTH AT CANINES.				
With length of head .....	.77	.89	.78	.70
With breadth of head .....	.70	.93	.91	.59
With circumference of head .....	.93	.75	.59	.71
PALATE, WIDTH AT MOLARS.				
With length of head .....	.50	.71	.75	.73
With breadth of head .....	.50	.71	.76	.85
With circumference of head .....	.82	1.00	.51	.87

It may be seen from these tables that, of the normal coefficients, 21 of the 24 (or 88%) reach a coefficient of correlation of 70% or more, 70% being accepted as a coefficient sufficiently high to represent a true correlation. Of the coefficients for the abnormal cases, 14 of the 24 (or 58%) reach a coefficient of 70% or more. Though this percentage is considerably lower than that of the normal, yet it is evident that a correlation exists even in the abnormal cases. Though a correlation is not found in all abnormal cases, neither is it always found in normal cases. In fact, not a few of the coefficients of the abnormal are actually higher than those of the normal.

On the basis of these facts it appears that the greater average height of the abnormal palate may be due to variations in the size of the head.

In general, two types of palate were noted:

(1) The high and narrow, associated in general with the narrow head (dolichocephalic); (2) the low and broad, associated with a broad head (brachycephalic). By referring to the general tables, this statement is verified when one notes that in practically all cases in which the height of the palate is greater than that of the average height, the length, breadth and circumference of the head are found to be smaller than the corresponding norms.

The high and narrow palate, then, may occur in the normal individual as well as in the abnormal, so that we cannot agree with Church and Peterson (2) that "a large, wide, moderately high vault is what may be called a normal standard." Rather, the shape and size of the head will determine the dimensions of the palate in both normal and abnormal individuals, and the palate will tend to be high when the head is shorter, narrower and of lesser circumference than the norm for the corresponding age. Either of the two types may be normal, depending upon the head measurements, the shape of the palate taking the general contour of the head.

Therefore, because the palate is imperfect, it does not necessarily follow that mentality is imperfect, *i. e.*, there is no necessary connection between the degree of mental capacity and a high palate.

The male and female palate may be compared by means of the following table of averages:

TABLE 16.—COMPARISON OF THE MALE AND FEMALE PALATE.

	NORMAL.		ABNORMAL.	
	Male.	Female.	Male.	Female.
A. Width, molars	34.58	32.25	33.98	33.23
B. Height	8.70	9.42	11.79	12.28
C. Length	28.58	26.75	28.99	27.55
D. Width, canines	24.05	24.33	24.60	22.97

It is seen from this table that the male palate tends to be larger than the female, excepting in the case of the height of the palate

(and in the normal, measurement D, where the difference is small), where the female exceeds that of the male.

This fact corroborates our previous conclusion, that the height of the palate depends upon the size of the head, the female head being smaller than the male and therefore producing a higher palate. By referring to Tables 7-14 it is evident that in both

TABLE 17.—VOLUME OF CASTS (IN MM.). MEASURED WITH MERCURY.

Abnormal Male.	Normal Male.	Abnormal Female.	Normal Female.
<i>Age. Volume.</i>	<i>Age. Volume.</i>	<i>Age. Volume.</i>	<i>Age. Volume.</i>
L. C.... 7 2.5	R. S... 5 4.5	H. G.... 8 6.5	E. R... 5 4.5
F. S.... 7 6.0	J. V... 5 5.0	I. V.... 9 6.2	R. R... 8 7.0
A. S.... 7 4.5	F. F... 6 7.0	J. T.... 9 6.5	M. S... 9 6.0
F. O.... 8 5.0	B. P... 12 8.5	E. L... 10 5.5	Average 5.8
H. J.... 8 5.5	A. S... 14 7.2	C. V... 11 4.5	P. E.... .400
P. F.... 9 4.7	R. C... 21 10.5	B. B... 11 6.0	P. D.... .514
J. V... 10 5.2		M. V... 12 3.5	
T. W... 10 9.2	Average 7.1	T. B... 12 9.0	
M. Z... 11 10.0	P. E.... .560	S. S... 12 9.0	
J. P... 11 8.0	P. D... .615	M. L... 15 6.0	
J. L... 12 7.5		E. B... 17 7.5	
H. A... 12 6.0		Average 6.3	
G. L... 12 6.0		P. E.... .324	
S. R... 12 8.0			
J. H... 12 8.0			
L. H... 13 11.0			
L. R... 14 6.0			
M. K... 14 7.0			
M. B... 14 9.0			
L. R... 15 11.0			
F. S... 16 8.0			
F. R... 16 10.0			
J. L... 16 7.0			
J. B... 17 8.0			
A. E... 17 7.0			
F. B... 17 6.0			
O. K... 18 6.5			
Average 7.1			
P. E.... .255			

abnormal and normal individuals, the averages of the length, breadth and circumference of the female head are in all cases less than those of the male for the corresponding measurements. The palate then tends to be high in either normal or abnormal individuals when the head is narrower, shorter and of lesser circumference than the norm for the corresponding age.

As for asymmetry, indicated by plus signs in Tables 7, 9, 11, and 13, the casts of the normal individuals tend to show asymmetry as generally as do the abnormal. In many cases the asymmetry is as great in the normal as in the abnormal palate. Asymmetry, then, is not a distinguishing characteristic of the palate in abnormal individuals.

The volume of the casts, as measured with mercury, is shown in the following table (17). It is evident that the volume of the abnormal cast differs, on the average, practically not at all from the normal. The volume of the female cast is smaller in both the averages for the normal and for the abnormal individuals.

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THE CORRELATION OF NEUROLOGY, PSYCHIATRY, PSYCHOLOGY AND GENERAL MEDICINE AS SCIENTIFIC AIDS TO INDUSTRIAL EFFICIENCY.

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I. INTRODUCTION.

It is less than a hundred years since organized labor was born. During this time, it has borne the brunt of adjustments to meet ever-changing conditions. Not the lightest of its burden has been the assimilation of the enormous influx of immigrants of *many nationalities, races, and languages*.

It is unnecessary to go into detail regarding the present signs of industrial unrest; they are only too patent to the thinking individual. The turmoil produced by the I. W. W.'s and Bolshevistic teachings, as exemplified in needless strikes, internal strife, excessive and unnecessary turnover, in lowered productivity, and plant inefficiency, is but a handwriting on the wall.

The leaders of industry have kept aloof and the breach between capital and labor has gradually widened until present conditions have awakened the true American to the seriousness of the situation. There should be stimulated a closer relationship between employer and employee and the stabilization of industries by the application of scientific and practical selection of the human material at hand; and the stabilization of the individual by being interested in him, thus creating trust, confidence and cooperation, as well as driving home the principles of good fellowship. To do this, it is absolutely necessary to study the individual as regards his *physical, nervous, and mental* fitness for a particular job, and to ascertain his special abilities and disabilities.

Undoubtedly a new epoch in the history of labor is at hand, unfolded by the present great necessity, associated with abnormal conditions, and surrounded by unusual circumstances.

Instead of throwing the entire burden of the *Americanization* of labor upon labor as a class, would it not be more laudable for

the *normal* and *unselfish leaders of industry* to assume at least a portion of the burden?

We read of this or that leader of industry developing wonderful efficiency in his establishment, but close scrutiny of the industries of this country will reveal conditions absolutely deplorable, unbusinesslike, and certainly unscientific. The turnover in many of our industries is astonishing and *absolutely unnecessary*.

The prognosis is good, providing proper treatment be applied and continued unhesitatingly, and with deliberate and rational vision.

It is my opinion that the proper treatment consists in the utilization of properly coordinated scientific aids under competent directing heads, and with the sympathetic and untiring *cooperation of labor and industrial leaders*. Prophylactic measures started now will prevent the disease of inefficiency from making further inroads upon the constitution of capital and labor and will stabilize and unify both.

The plan hereinafter to be discussed is *practical, broad, comprehensive, humane, economic*, as well as *scientific*. It must be understood, however, that this article is only preliminary and represents a beginning of industrial research work which the author believes is the first of its kind to be undertaken.

II. SOURCES OF INFORMATION.¹

Information and groundwork for this research was gained by visits to large industrial plants, including one of the large shipbuilding plants on the Pacific coast. Personal interviews were had with managers, superintendents, foremen, and men, and opportunity offered for study of individuals. Careful study was made of the method of employing labor, not only the methods used at the individual plants, but also methods observed at United States employment offices. What particularly impressed the author was the fact that the efficiency of every plant was entirely

¹ The courtesies extended by the Messrs. Marchant, of Marchant Calculating Machine Co., Oakland, California, made possible a great portion of this work. Also my gratitude is very great for courtesies of Mr. D. M. Rupert, Employment Manager of Union Plant, Bethlehem Shipbuilding Corporation, Ltd., San Francisco, and to Mr. T. H. Jacobs, Manager of Service Department of the same corporation.

dependent upon the methods used in its employment bureau. It is the keystone to the entire arch of industry. True, at the present time, this keystone is a little unstable, but by the proper cooperation of capital and labor and the realization by both of the great necessity for the *proper selection and distribution of labor*, it will be possible to imbed it the more firmly in the cement of good fellowship and loyalty.

The loss to many industries through the *termination* of individuals unsuited for a particular job, but having unascertained special abilities, is enormous. The *salvage* of this human material should be undertaken by a scientifically equipped employment bureau. Such a salvage bureau as a part of the general employment scheme would react not only favorably to the employee, but to the employer as well.

III. METHODS OF PROCEDURE.²

Under this head will be given methods used in examinations.

These include: (a) General medical; (b) neurological; (c) psychiatric; (d) psychological; (e) social.

All the methods are subject to revision and criticism, but it must be fully appreciated that the foundation for the whole scheme is the *proper coordination of all scientific aids* in industrial examinations. Without such coordination and a rational interpretation of results, confusion is possible, and erroneous conclusions are liable to be drawn. For example, an individual might have a so-called normal intelligence, and by psychologists be classed as a capable individual, yet a neurological or psychiatric examination might reveal a serious pathological nervous or

² Many valuable suggestions and much encouragement were given by Mr. Virgil E. Dickson, Chief of Psychological Research Department, Oakland, California, Public Schools.

Mr. A. Vollmer, Chief of Police, Berkeley, California, gave much of his valuable time and experience in assisting at examinations and in freely offering valuable suggestions.

Dr. Paul J. Anderson, psychiatrist, Oakland, California, and Mrs. Grace Hawkins, assistant clinical psychologist, Leland Stanford University Medical School, San Francisco, rendered invaluable assistance in the examinations.

My appreciation is keen for the kind encouragement of Prof. Robt. Leonard, Professor of Vocational Education, University of California, Berkeley, California.

mental condition, making such a person a potentially dangerous individual for any industry; or the medical examination might reveal incipient or advanced pulmonary tuberculosis, active syphilis, or some abnormal physical condition or defect, making the individual a menace to his co-workers and a danger to himself. All this, notwithstanding that he possesses normal or above average intelligence, and by psychological tests alone would be passed, demonstrates the great necessity for proper coordination of all scientific aids in industrial examinations.

A scheme involving such a coordination as above explained, could be put into operation in the employment bureaus of industrial organizations, or a general clearing-house could be established for a number of industries. Also such a scheme could be utilized to ascertain the *physical*, *nervous*, and *mental* equipment of individuals already employed, with the end in view of bettering their condition, and possibly ascertaining their special abilities.

Much talent is hidden in modern industry, and many individuals become anti-social because of unfair bosses and foremen (unfair because of some abnormal nervous or mental condition).

As many as 100 at a time could be given the psychiatric and psychological examinations, but it is preferable to examine in groups of 25, as it gives the examiner greater opportunity to study the individual reactions.

Men and women should be examined separately.

The physical examination should be first, at which time should also be made the neurological examination, and also it is possible during this time to make psychiatric observations.

The following outline for examination is suggested for the reason that it is simple and covers the necessary points:

A. GENERAL MEDICAL EXAMINATION.

1. General appearance.
2. Vision.
3. Hearing.
4. Heart.
5. Lungs.
6. Skin.
7. Teeth.
8. Venereal diseases.

9. Surgical diseases (especially hernia, flat-feet, deformities).
10. Condition of blood and urine (laboratory examinations, if individual desires it. Consent can usually be obtained).

NOTE.—Author realizes the difficulty involved in obtaining the above, and it might be necessary to confine physical examination to general inspection until labor organizations have been educated as to the value of such examinations to the individual.

B. NEUROLOGICAL EXAMINATION.

NOTE.—Can be made at time of general physical examination, and usually presents no difficulties.

1. Principal deep and superficial reflexes:
 - (a) Knee-kicks.
 - (b) Tendo Achillis.
 - (c) Superior tendons.
 - (d) Abdominal.
 - (e) Cremasteric.
 - (f) Pupillary reflexes.
2. Station.
3. Tremors.
4. Neuro-circulatory syndrome (endocrinopathies).
5. Speech disturbances.

C. PSYCHIATRICAL EXAMINATION.

1. Direct observation.
2. Questionnaire. (Most individuals will answer truthfully simple questions if permitted to write the answers. If questions are carefully selected, and are not too numerous, much can be gleaned as to family and personal history, at least enough to justify a special interview if the answers warrant it.)

The following list of questions, most of them answered by either "Yes" or "No," could be used. This list could be made much shorter and less specific, and still would answer the purpose for "spotting" types:

Form Suggested for Questionnaire.

KINDLY ANSWER THE FOLLOWING QUESTIONS TO THE BEST OF YOUR ABILITY. ALL ANSWERS ARE TREATED ABSOLUTELY CONFIDENTIAL AND THE INFORMATION OBTAINED IS TO BE USED FOR SCIENTIFIC PURPOSES ONLY, AND HAS NO REFERENCE WHATSOEVER TO YOUR PRESENT POSITION OR FUTURE ASSOCIATION WITH THIS OR ANY OTHER COMPANY.

THE INFORMATION GIVEN SHOULD BE AS ACCURATE AS POSSIBLE. YOUR GENEROUS COOPERATION AND ASSISTANCE IS ASKED IN THIS INVESTIGATION.

NOTE.—Heading for questionnaire could be changed to suit conditions, whether or not it was to be used for research work only, as above, or in course of regular examination of applicants.

Name Address No.
Age M. S. W. D. Ht. Wt.
Sex Color hair Color eyes

I. Give age and cause of death of:

1. Mother's mother
2. Mother's father
3. Father's mother
4. Father's father
5. Father
6. Mother
7. Brothers
8. Sisters

II. State any peculiarities or abnormal nervous or mental conditions in family or ancestors, such as the following: (Answer "Yes" or "No.")

1. Stammering or stuttering
2. Headaches
3. Dizzy spells
4. Fainting spells
5. Despondency or "blues"
6. Fiery temper
7. St. Vitus's dance
8. Fits
9. Epilepsy
10. Paresis
11. Nervous breakdowns
12. Mental diseases (insane)
13. Feeble-minded (imbeciles)
14. Remarks

III. Name diseases in family, including three generations, if possible: (Answer "Yes" or "No.")

1. Consumption
2. Tuberculosis
3. Bright's disease
4. Diabetes
5. Cancer
6. Scrofula
7. Syphilis
8. Malaria
9. Remarks

IV. State any special talents or abilities in your family or ancestors: (Answer "Yes" or "No.")

1. Music
2. Art

3. Mechanical
4. Executive
5. Professional
6. Remarks

V. Give occupations of :

1. Father
2. Mother
3. Brothers
4. Sisters
5. Grandparents
6. Remarks

VI. Did you have any of the following diseases or conditions? (Kindly answer by "Yes" or "No.")

1. Measles
2. Mumps
3. Scarlet fever
4. Whooping-cough
5. Chicken-pox
6. Diphtheria
7. Stammering or stuttering
8. Sleeplessness
9. Pneumonia
10. Influenza
11. Typhoid fever
12. Operations
13. Headaches
14. Dizzy spells
15. Fainting spells
16. Coughing spells
17. Fits, convulsions, or spasms
18. St. Vitus's dance
19. Despondency or "blues"
20. Fiery temper
21. Fits of anger
22. Nervous breakdown
23. Frequent dreams
24. Nightmare
25. Blushing (frequent)
26. Blind or half-blind for a short time
27. Deaf or dumb for a time
28. Loss of memory
29. Biting of finger-nails
30. Ever see a vision?
31. Ever hear imaginary voices?
32. Asthma

- 33. Hay fever
- 34. Twitching of face muscles
- 35. Walk in sleep
- 36. Does your nose more or less constantly itch?
- 37. Paralyzed
- 38. Wet bed (how old when stopped)
- 39. Stumble in the dark
- 40. Fear of going insane

VII. Kindly answer the following questions by "Yes" or "No" when possible:

- 1. Does your hand tremble when you attempt to use it?
- 2. Are you usually well?
- 3. Do you feel tired and achy in the morning?
- 4. Does your head ever ache on one side?
- 5. When your head aches do you see colored lights?
- 6. Were you happy as a child?
- 7. Did you often become blue or discouraged between the ages of 12 to 20 years?
- 8. Do you like to be alone?
- 9. Do you like to make new acquaintances?
- 10. Does the sight of blood make you feel faint or wish to run away?
- 11. Do you get tired easily?
- 12. Do you seem to think people are watching you on the street or in public places?
- 13. Are you afraid to cross open spaces?
- 14. Are you afraid of crowds or closed places?
- 15. Do you belong to a lodge or club?
- 16. Have you held any offices in a lodge, club, or other organization?
- 17. Has any one "got it in" for you?
- 18. Anybody persecuting you?
- 19. Were you always treated right by your family and employers?
- 20. Are you satisfied with life?
- 21. Do you think that you are getting a square deal in life?
- 22. Were your parents
 - (a) Poor?
 - (b) Moderate means?
 - (c) Well-to-do?
 - (d) Wealthy?
- 23. Do you
 - (a) Own your own home?
 - (b) Rent home?
 - (c) Rent flat?
 - (d) Rent apartment?
 - (e) Rent room?
 - (f) Live with parents?

24. Were you raised in
 - (a) City?
 - (b) Country?
25. What school did you attend?
26. How much schooling have you had?
27. What grade did you reach?
28. Did you ever fail in school?
29. What grades did you fail in, and how many times in each?..

.....

(Please answer in full.)
30. Name the occupations you have had and length of time worked at each?
31. Were your comrades during childhood and adult life good, bad, or indifferent?
32. What kind of amusements do you like?
33. Have you any special talents?
34. How long at your present or last occupation, and what are or were your wages?
35. Are you anxious for advancement?
36. Do you like responsibility?
37. What special abilities have you?
38. What would you like to do?
39. How long have you been in the state?
40. Are you a citizen of the United States?
41. Have you children?
42. Have you ever been arrested?
43. Do you laugh or cry easily?

It will be noted that the preceding questions include:

- I. Family history.
- II. Health history.
- III. Personal history.
- IV. Social history.
- V. Education.
- VI. Industrial history.
- VII. Reaction toward present environment.
- VIII. Special abilities.
- IX. Nervous and mental phenomena which would indicate further examination.

D. PSYCHOLOGICAL EXAMINATION.

I am indebted to Lieutenant A. Warren Stearns^{*} of the neuro-psychiatric division of the United States Navy for a compilation of tests which I have found to answer my purpose very well up to the present time. Inasmuch as "Stearns'" test has been standardized for a number of occupations in the United States Navy, it would be well to utilize it until a more practical one is compiled. However, as the work in industrial examinations proceeds the need for other tests, special trade tests, and tests for special abilities, becomes manifest. These are being developed at present and will be presented at a later date.

The following is Lieutenant A. Warren Stearns' test, which should be known as the "Stearns'" test:

The score is upon the basis of 100—20 points for each test—five tests in all.

1. Trabue test.
2. Disarranged sentences test.
3. Cancellation test.
4. Auditory memory test.
5. Visual memory test.

In industrial examinations it has been found that the No. 2 test is especially valuable in testing ability to quickly recognize relationship of well-defined and easily recognized parts to a given whole (assembling). More difficult tests have been suggested. No. 3 test is good for speed and accuracy and attention.

INSTRUCTIONS FOR GIVING STEARNS' TEST.

(Quoted from Dr. Stearns.)

In giving the directions for these tests, it is essential that every point be clearly understood by every one who is capable of understanding. This can be assured in no other way than by giving the directions slowly and distinctly, with proper expression and emphasis. Before being given, it should be seen that the test is clearly understood. In order that the meaning of each sentence may be fully grasped, it should be followed by a pause. A good rule is to allow a pause of *two seconds after each sentence*. The

^{*} Lieutenant A. Warren Stearns kindly gave permission to use his compilation of tests and to publish it. His test, with full instructions and results of his work, will shortly appear in book form. In it he gives credit to all originators of his test.

STEARNS' TEST.

No..... Date..... Age..... Sex.....

1	<ol style="list-style-type: none"> 1. The sky.....blue. 2. Men.....older than boys. 3. Good boys.....kind.....their sisters. 4. The girl fell and.....her head. 5. The.....rises.....the morning and.....at night. 6. The boy who.....hard.....do well. 7. Men.....more.....to do heavy work.....women. 8. The sun is so.....that one cannot.....directly.....causing great discomfort to the eyes. 9. The knowledge of....use of fire is.....of.....important things known by...but unknown...animals. 10. One ought to.....great care to.....the right.....of....., for one who.....bad habits.....it.....to get away from them. 	
2	<ol style="list-style-type: none"> 1. Hour—for—we—early—at—park—an—started—the. 2. To—asked—exercise—my—teacher—correct—my—I. 3. A—defends—dog—good—his—courageously—master. 	
3	One hears very different judgments in the value of life. Some say it is good; others say it is bad. It would be more correct to say that it is mediocre; because on the one hand it brings us less happiness than we want, while on the other hand the misfortunes it brings are less than others wish for us. It is the mediocrity of life that makes it endurable; or still more, that keeps it from being positively unjust.	
4	<ol style="list-style-type: none"> 1. 2. 3. 4. 	
5	Healy's Code test.	

procedure may only be considered as standardized on the condition that the examiner adheres to this rule uniformly throughout the testing.

Introductory.—This examination is given as an aid in finding for what special work you are best qualified. These papers (indicating) will be passed to you, printed side down. *Do not turn them over* until you are told to do so.

Has every man a paper? Has every man a pencil? Now at the top of the blank side of the paper: (1) Your full name, (2) your number, (3) the highest grade you completed in school. Every one should now have the name, number, and amount of schooling recorded on this sheet.

This examination consists of five different tests. You will do one test at a time. At the order "Begin writing," you will turn your paper over and begin work. You will be allowed a reasonable time to complete each test, so do not hurry through them, but keep your mind on the tests and work steadily. As soon as you have completed the test or when the command "Papers over" is given, you will turn your paper over, printed side down.

TEST 1.

This test is to see how quickly and how well you can complete 10 sentences, which have certain words omitted. Put one word only in each blank space.

"Ready to begin."

"Begin writing."

"Paper over" (after seven minutes).

TEST 2.

The next test consists of seeing how quickly and how well you can rearrange three groups of words into sentences. The words in each sentence are mixed up so they do not make sense. To make a sentence of these words they should be put in order. Use every word which you find under each group.

"Ready to begin."

"Begin writing."

"Paper over" (after three minutes).

TEST 3.

The next test consists in seeing how quickly and how accurately you can cross out all of the "e's" in a paragraph of reading matter taken from a newspaper. Draw a line through each letter "e."

"Ready to begin."

"Begin writing."

"Paper over" (after one minute).

TEST 4.

The first order for these tests will be for you to hold your pencils up, resting your elbow on the table. Now turn your papers over, keeping your pencils up.

This test consists in seeing how many numbers you can write. First, I will read five numbers. When I have finished, at the command "*Write*" you will write the figures on the first line. Then you will hold your pencils up, and I will give you five more, which you will write on the middle line opposite the number "1." Then five more, which you will write on the last line opposite the number "1," etc.

"Ready to begin."

47395—"Write."

"Ready."

58379—"Write."

"Ready."

85264—"Write."

Now I will give you six numbers, which you will write on the second line.

"Ready to begin."

854726—"Write."

"Ready."

274681—"Write."

"Ready."

941738—"Write."

Now I will give you seven numbers, which you will write on the third line.

"Ready."

2946375—"Write."

"Ready."

1695847—"Write."

"Ready."

9285164—"Write."

Now I will give you eight numbers, which you will write on the fourth line.

"Ready."

38574692—"Write."

"Ready."

27869513—"Write."

"Ready."

83962754—"Write."

"Paper over" (no time limit).

TEST 5.

Sometimes in war it is necessary to send secret messages. For this purpose codes or ciphers are used. I am going to give you a code used by the Southern Army in the Civil War, and later ask you to write words in it.

(Put code on blackboard.)

Each letter is represented by the lines which inclose it, *i. e.*,

A, B, C, etc.,

S, T, U, V.

Now these figures for the second groups are the same, except that a dot is placed in each angle to distinguish them from the others, *i. e.*,

J, K, L, etc.,

W, X, Y, Z.

Now we write the word "War," thus:

(Indicating.)

Remember the order of the letters in each figure (*i. e.*, top to bottom, and counter-clockwise).

I am going to ask you to write a phrase on the bottom line of your paper, opposite the number "5," using the code as you remember it.

"Ready to begin."

"Write"—"Caught a Spy."

"Paper over" (after three minutes).

The time required for complete examination is very short in the hands of properly equipped individuals. It is often difficult to find in one person all the qualifications necessary, so a competent physician, trained in making the neurological examinations could rapidly make the physical and neurological examinations. The psychiatric and psychological examinations could be done by one individual properly trained.

It is my firm belief that all psychologists should have a good working knowledge of neurology and psychiatry; and that all psychiatrists should be able to give mental intelligence tests, and be well grounded in psychology. Their trails cross too often for them to ignore each other or to enter into petty fights.

Only a few representative cases will be presented in this article, but in a subsequent paper tables and correlations will be given.

The following method of conducting the examination should be used:

Examination rooms should be well lighted and comfortable. Employees should have explained to them the value of the examinations and the scientific reason; for, by properly explaining in the beginning, a great deal of the apparent mystery is eliminated and a feeling of interest and cooperation aroused. Such a pre-

liminary talk often brings out abnormal mental characteristics in the audience, which an intelligent assistant can record.

The physical and neurological examinations then follow and can be recorded on a blank similar to the one at the end of this article. Very rapid and accurate work can be done after a little practice.

The questionnaire noted above can be given to the employees either before the physical examination or after the psychological test has been given, preferably the latter.

No....	Sex....	Age....	Wage....	M. S. W. D....	Occupation....
Organization					
Plant					
Department					
Examiner					

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	1	2	3	4	5
I	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
II	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
III	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
IV	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
V	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
VI	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
VII	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Personality	Recommendations:
Character	
Habits	
Traits { Desirable.	
{ Undesirable.	
References	
Labor { Especially Skilled.	Employed as.....
{ Skilled.	
{ Experienced.	
{ Unskilled.	

The chart has been devised by the author as a graphic method of presenting an individual to the superintendent or foreman. Following the chart the symbols used are explained.

At this time it might be well to mention that in collaboration with Mr. A. Vollmer, Chief of Police of Berkeley, California, and associate editor *The American Journal of Criminal Law and Criminology*, a code system is being worked out for all known

occupations, diseases, and accidents. This will be valuable because it will help to standardize industrial examinations. The detailed explanation of such a code and the description of the system for filing records is too lengthy to be printed herewith, and must be reserved for the future.

EXPLANATION OF INDIVIDUAL VOCATIONAL CHART.

The headings are no doubt clear.

At bottom of chart is noted:

(a) *Personality*.—At present this is recorded in descriptive terms only, such as "pleasing"; "disagreeable"; "undesirable." It has not been lost sight of that *intelligence* and *character* go to make up a *personality*, and that the traits of character are but external manifestations of the workings of the mind. Accordingly, for the present, traits are recorded as desirable or undesirable from an industrial standpoint.

The Roman numerals are explained as follows:

- I. Very superior.
- II. Superior.
- III. Above average.
- IV. Average.
- V. Below average.
- VI. Inferior.
- VII. Very inferior.

The top row of letters is explained as follows:

- A. Education.
- B. Intelligence.
- C. Physical.
- D. Nervous.
- E. Mental.
- F. Vision.
- G. Attention.
- H. Continuity of effort.
- I. Follow directions.
- J. Speed.
- K. Accuracy.
- L. Trustworthy.
- M. Social.
- N. Apperception.
- O. Opinion of foreman.

P. Special abilities.

1. Learning.
2. Planning.
3. Assembling and discrimination.
4. Analytical with manipulating.
5. Reporting (inspection).

These may be altered or added to according to the needs of the industry.

At end of article will also be found a form arranged for The Marchant Calculating Machine Co.,* of Oakland, California, to enable foremen to describe a particular job. Such a form is more or less general and would apply to many industries. It is of great assistance in this work.

The special cases with their respective charts are to be found at the end of this paper.

IV. CONCLUSIONS.

The result of the study of industrial problems from a medico-psychological viewpoint leads one to the following *conclusions*:

- A. The establishment of medico-psychological laboratories as the principal department of employment bureaus of every large industrial organization would be an economic asset and desirable.
- B. The establishment of a central employment clearing-house with medico-psychological laboratory which would act for groups of industrial organizations too small to economically conduct their own bureaus is suggested.
- C. A representative of labor organizations should be in all employment bureaus or employment-clearing-house *bureaus*.
- D. The value of scientific selection and distribution of labor would react to the benefit of:

I. *The individual.*

- (a) By lessening his liability to contact with individuals suffering from communicable diseases.

* A complete report on examinations made at plant of Marchant Calculating Co., Oakland, California, will be published later.

- (b) By lessening his liability to accident by properly placing his co-worker, according to his *physical, nervous* and *mental* capacity.
- (c) By increasing his efficiency, and consequently his earning power, by pointing out his special abilities and by encouraging him to utilize his capacities to his best advantage.
- (d) By increasing his interest in labor organizations, and encourage him to cooperate with his fellow man.

II. *Industrial organizations.*

- (a) By lessening liability to strikes.
- (b) By increased efficiency in the plant and consequent better and increased output.
- (c) By elimination, or proper placing, of the physical, nervous, and mentally unfit, who not alone are often a menace to the safety of their co-workers, but a detriment to normal industrial progress.
- (d) By greater cooperation and loyalty from employees due to better understanding and opportunities presented for advancement.
- (e) By *enormous reduction of labor turnover*.
- (f) Lowered cost of output due to low turnover.

III. *Labor organizations.*

- (a) By stabilizing their personnel.
- (b) By increasing their power for the good of their members, and thus reacting a benefit to the community.
- (c) By bringing them into closer contact with employers, and thus leading to a clearer understanding of general and special problems affecting the interests of both.
- (d) By having a more intimate knowledge of the capabilities of its members, and consequently the better enabled to advise them and to offer suggestions to industrial organizations.

IV. *The community.*

- (a) By lessening the number of undesirable floating population.
- (b) By increasing the number of persons owning homes.
- (c) By lessening the number of strikes.
- (d) By decreasing the number of accidents and loss of life (this especially applies to public service corporations). Instances are numerous where the lives of the public have been endangered by the *irresponsible acts* of morons, epileptics, and mentally and physically ill individuals, in the employ of public service corporations.

E. Further suggestions.

- I. The gradual working out and adoption of some system for the proper selection and distribution of labor which will ultimately become *standardized for all occupations*. This would not work a hardship on any one person or organization, but would react for the ultimate good of all.
It simply means a more careful study of the *individual* and the avoidance of placing "square pegs in round holes."
- II. The avoidance of the confusion of the work of efficiency experts with medico-psychological work. It will always be necessary for efficiency experts to exercise their function, but they will work to greater advantage if they are able to explain their suggestions to properly placed individuals.
- III. Such a scheme as suggested in this paper applies to all industrial organizations, public and private, including banks, department stores, and public service corporations.
- IV. The establishment of medico-psychological laboratories in conjunction with public schools would:
 - (a) Be of untold value to the vocational guidance bureaus of municipalities.

- (b) Save many a life from being wrecked on the rocks of industrial inefficiency, and would prevent many a parental heartache by properly advising the youth as to his capacity.
- (c) Be of service from the standpoint of *prophylactic criminology*.
- (d) Be of value to industrial organizations, labor organizations, and adult, and juvenile probation courts.

F. The following form is suggested for making a report to industrial organizations upon a survey of plants from a medico-psychological standpoint:

To: (Name of organization or individual to whom report is being made.)

Subject: (To include title of report and name of organization.)

Sources of information: (Enumerate all sources of information.)

Diagnosis: (Briefly, the end-result of the investigation.)

Causative factors:

Prognosis:

Summary: (Briefly summarize results of investigation.)

Treatment:

Conclusions:

Recommendations:

The following extracts^{*} from a report made by the author to service department manager of a corporation employing more than 17,000 in the plant surveyed, will serve to emphasize the above outline:

To: Mr., Mgr. Service Department of Corporation.

Subject: Preliminary report on observations made during a two-day survey of the plant of the Corporation.

Sources of information: Direct observation, interviews with heads of departments, and with employees.

Diagnosis: Output lowered and produced at excessive cost. (i. e., greater and better output could be attained at cost of present output if present abnormal conditions are corrected.)

^{*} This report appeared in the *American Journal of Criminal Law and Criminology*, February, 1919.

Causative Factors:

A. LABOR INEFFICIENCY due to:

1. Physical defects.
2. Nervous defects.
3. Mental defects.
 - Pathological.
 - Psychological.
4. Character defects.
5. Peculiar traits.
6. Vocational misfits.
7. Racial peculiarities.
8. Unhygienic working conditions.

B. TIME LOSS due to:

1. Loafing on the job.
2. Visiting.
3. Making material for own use.
4. Improper communication facilities.
5. Present method of issuing supplies.
6. Present method of distributing labor.

C. SOCIAL FACTORS.

1. Defective employment methods.
 - (a) Improper facilities for receiving applicants.
 - (b) Unsatisfactory application blank.
 - (c) No provision for human salvage.
 - (d) NO PROVISION FOR MEDICO-PSYCHOLOGICAL EXAMINATIONS.
2. Mismanagement.
 - (a) Lack of foremanship.
 - Unskilled.
 - Temperamentally unfit.
 - Psychologically unfit.
 - Brutal, selfish.
 - Favoritism.
 - (b) Lack of harmony and cooperation between departments.
 - (c) Too wide breach between employer and employee.
3. Insufficient social service.
 - (a) No provision for eating.
 - (b) Improper recreation facilities.
 - (c) No education.
 - Department schools.
 - Motion pictures, educational.
 - Special lectures.
 - (d) Inadequate medical supervision.
 - (e) Inadequate accident prevention.
 - (f) Inadequate provision for physical culture, rest, and baths.
 - (g) No woman supervisor.

Prognosis: Good, providing proper treatment be applied and continued unhesitatingly, and with deliberate and rational vision.

Summary: Under this heading are enumerated briefly the observations made during the two-day survey of your plant from a sociological, medico-psychological, and economic standpoint.

It is manifestly impossible in such a brief time to make an analysis of individual departments, but it is possible to get a good perspective from such a "spotting" survey. At once one is impressed by the poor, inadequate, and unhygienic method of receiving the labor. Instead of creating and stimulating good fellowship, interest, and loyalty, as well as *esprit de corps*, the present method is conducive to antagonism, disgruntledness, disloyalty, lack of interest, and at the same time is a potential factor in lowering the vital resistance of the individual, and consequently his worth to the employer.

Unnecessary crowding, unnecessary unhygienic conditions, few protective devices, no accommodations for eating, little or no recreation stimuli, absence of educational lectures and motion pictures, utter disregard of welfare of women employees, UNSCIENTIFIC SELECTION AND WASTEFUL DISTRIBUTION of labor; mismanagement, as exemplified in poor or inefficient foremanship, inharmony, little or no cooperation between departments, favoritism, no systematic or organized attempt at salvage of terminating efficiency; time loss, as demonstrated by men loafing on the jobs, visiting, smoking, too many men for the job, absence of system of communication, the employment of men and women unsuited for the various tasks assigned to them on account of various physical, nervous, and mental defects, the placing of "square pegs in round holes," no study of racial peculiarities, character defects, or peculiar traits, as regards an individual's fitness for his job, no encouragement of special abilities, and utter ignoring of disabilities, ARE THE IMPORTANT POINTS NOTED.

In fact, the spirit of production has become the obsession without making proper selection of the individual who does the producing.

The most encouraging observation was the fact that a number of men in charge of various departments, especially the gentlemen in the SERVICE and EMPLOYMENT departments, are alive to the situation and the demands of the present age, and are keenly interested in the INDIVIDUAL, and realize the potentialities for good within the grasp of the present generation. Their vision is clear, and not befogged by hazy, ethereal theories, but enhanced by definite cold-blooded facts, open to all who can see.

Treatment: Prophylactic measures started now will prevent the disease of inefficiency from making further inroads on the constitution of capital and labor, and will stabilize and unify both.

The above must be done through the employment bureau, which must be an efficiency bureau in every sense of the word.

It is absolutely necessary to study the INDIVIDUAL as regards his physical, nervous, and mental fitness for a particular job, and to ascertain his special abilities and disabilities.

Conclusions: The coordination of all scientific aids under one competent directing head, and the sympathetic and untiring cooperation of the heads of all departments and especially the management, is essential for the success of this plan.

IT IS PRACTICAL, BROAD, COMPREHENSIVE, HUMANE, ECONOMIC.

Recommendations: The establishment of such a bureau with sufficient power to operate unhampered.

REPORT OF CASES.

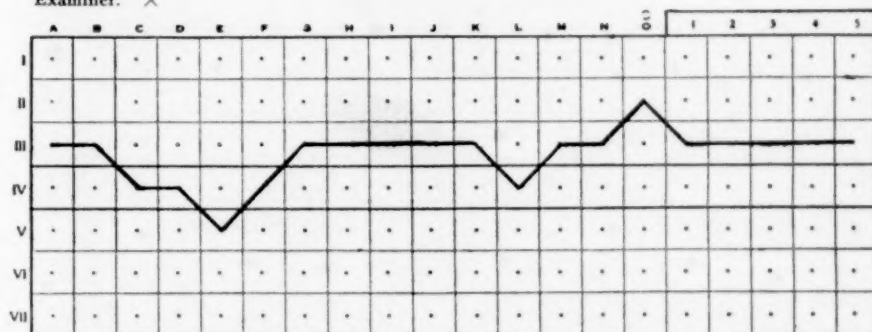
CASE I.

A. *Laboratory Report.*—Above average. Manifesting special mechanical ability. Somewhat reticent and "touchy." Has idea that she might not be wanted in her present position if her former occupation (school teacher) is known.

B. *Foreman's Opinion.*—Excellent ability. Very good.

C. *Recommendations.*—This individual should be encouraged in her work and made to feel that her place is secure. With her mental capacity she ought to be able to become one of the best in your factory and every effort should be made to retain her.

No. I. Sex, Female. Age, 30. Wage, 5.75. M. W. D.... Occupation....
 Organization. ☒
 Plant. ☒
 Department. ☒
 Examiner. ☒



Personality, pleasing.

Character, good.

Habits, O. K.

Traits { Desirable. ☒
 Undesirable.

References

Labor { Especially Skilled.
 Skilled. ☒
 Experienced.
 Unskilled.

Recommendations:

Employed as.....

D. *Remarks.*—This employee is a normal school graduate; taught school, but did not like teaching. Gave it up to take her present position. Always fascinated by things mechanical. She started work at \$2.00 per day in assembling department and in five weeks was head assembler and tester at a wage of \$5.75 per day. A glance at her chart will give the reason. It clearly pictures the individual. She is put below average in "mental" column to call attention to a slight depressive state occurring at times which would bear watching. Her leadership ability is below average because of somewhat shut-in type.

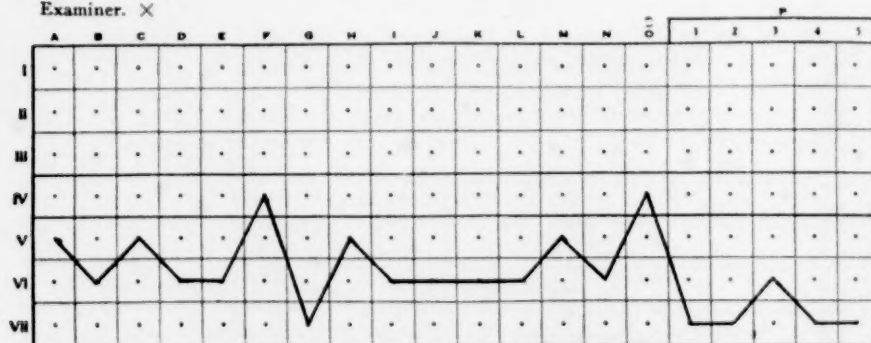
This case is a good demonstration of correlation between intelligence and education reacting to the economical benefit of the individual.

CASE II.

A. *Laboratory Report.*—Very poor. Untrustworthy.

B. *Foreman's Opinion.*—Good.

No. II. Sex, Female. Age, 35. Wage.... M. W. D.... Occupation....
 Organization. X
 Plant. X
 Department. X
 Examiner. X



Personality, below average.

Recommendations:

Character

Habits

Traits { Desirable.
 Undesirable.

References

Labor { Especially Skilled.
 Skilled.
 Experienced. X
 Unskilled. X

Employed as.....

C. *Recommendations.*—It would be unwise to offer this individual advancement for the reason that her capacity is limited and the work that she is now doing is but the work that a normal 11-year-old child could do. She has been four months employed, is receiving \$2.25 per day and is contented and happy. The type of work she does is commensurate with her capacity.

D. *Remarks.*—The work this employee does is practically automatic. She lifts a piece of metal from a shelf and puts it in a machine. Always the same and very simple. She does it well, so the opinion of the foreman is "good." She could not be advanced to work requiring the use of higher mental processes, such as judgment and reason.

The chart at once shows her type. The "mental" column is in "inferior" because she manifests some abnormal mental symptoms.

CASE III.

A. *Laboratory Report.*—Average good employee. Slow but accurate. Memory good. Attention good.

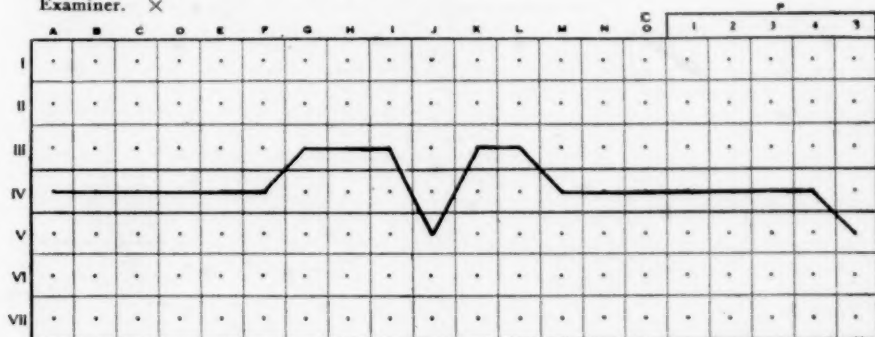
No. III. Sex, female. Age, 21. Wage.... M. S. W. D.... Occupation....

Organization, X

Plant, X

Department, X

Examiner, X



Personality, pleasing.

Recommendations:

Character

Habits

Traits { Desirable. X

Undesirable.

References

Labor { Especially Skilled.

Skilled.

Experienced. X

Unskilled.

Employed as.....

B. *Foreman's Opinion.*—Good.

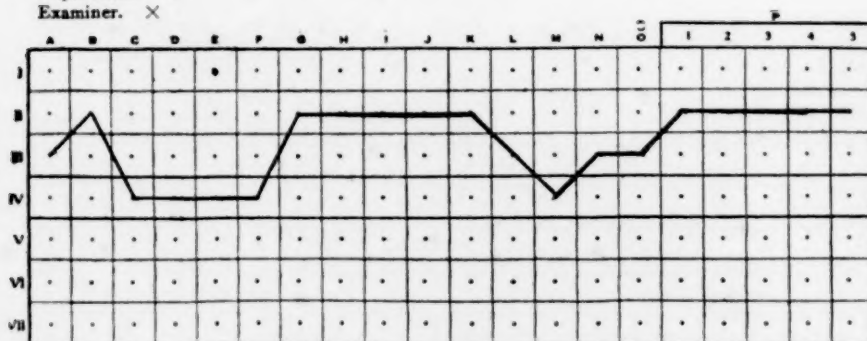
C. *Recommendations.*—If this individual is properly encouraged and given greater responsibility, especially in a place where her speed will increase and where she can maintain her accuracy, she will become very valuable. She will be a good individual for careful advancement, but always remember that she is slow but accurate.

CASE VI.

A. *Laboratory Report*.—Exceptionally good. Accurate and fast. Attention, steadiness of purpose and memory are superior. Education and intelligence above average. Trustworthy. Poor personality (retiring, shut-in type).

B. *Foreman's Opinion*.—Good.

No. VI. Sex, Male. Age.... Wage.... M. S. W. D.... Occupation....
 Organization. ☒
 Plant. ☒
 Department. ☒
 Examiner. ☒



Personality, not pleasing.

Character

Habits

Traits { Desirable. ☒
 Undesirable.

References

Labor { Especially Skilled.
 Skilled.
 Experienced. ☒
 Unskilled.

Recommendations:

Employed as.....

C. *Recommendations*.—This man has exceptional ability, combined with speed and accuracy. He should be encouraged and watched as he will be likely to cover many good traits because of a bashfulness. Give him all the opportunity that you can except foremanship, although as an experiment it might be desirable to see what could be brought out in this man in the way of teaching, that is, he might be a good instructor for others.

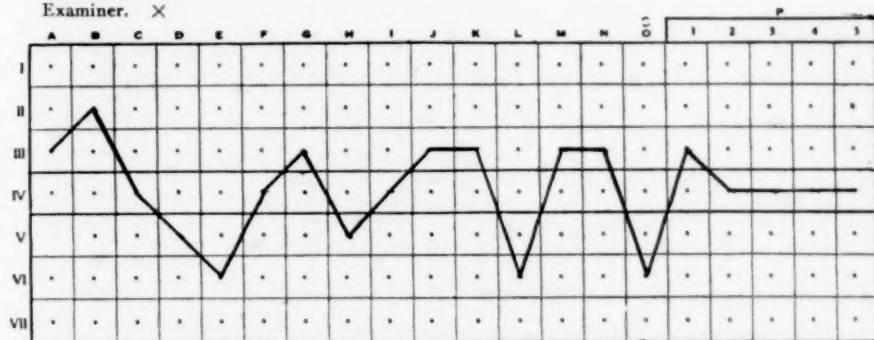
D. *Remarks*.—Suggestions were followed in this case, and the man is making good, proving an exceptionally good demonstrator.

CASE XIII.

A. *Laboratory Report*.—Good education. Quick, accurate, keen, rapid flow of ideas. Auditory and visual memory good. Restless. Likes to show off. Manic type.

B. *Foreman's Opinion*.—Poor. Erratic. Untrustworthy.

No. XIII. Sex, female. Age, 40. Wage.... M. W. D.... Occupation....
 Organization. ☒
 Plant. ☒
 Department. ☒
 Examiner. ☒



Personality, pleasing.

Character

Habits

Traits { Desirable.
 Undesirable. ☒

References

Labor { Especially Skilled.
 Skilled.
 Experienced.
 Unskilled. ☒

Recommendations:

Employed as.....

C. *Recommendations*.—Undesirable. Abnormal mental type. Will distract others from their work. Too talkative. Advise terminating this employee, for her own good as well as that of her co-workers.

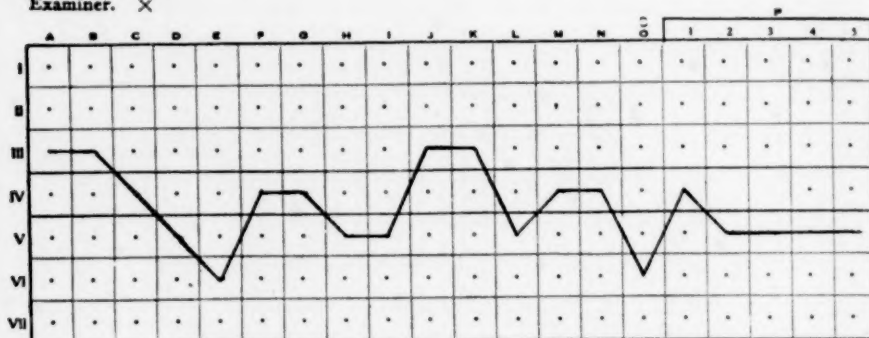
D. *Remarks*.—Apparently a manic-depressive. Woman aged 40 years. The foreman's opinion checks with examination.

CASE XXIX.

A. *Laboratory Report*.—Intelligence and education above average. Attention is fleeting. Shut-in type. Worries. Faints frequently. Psychopathic character.

B. *Foreman's Opinion*.—Capable but irresponsible. Cannot depend upon her.

No. XXIX. Sex, Female. Age, 35. Wage.... M. W. D.... Occupation....
 Organization. ×
 Plant. ×
 Department. ×
 Examiner. ×



Personality, pleasing.

Character

Habits

Traits { Desirable.
 Undesirable. ×

References

Labor { Especially Skilled.
 Skilled.
 Experienced.
 Unskilled. ×

Recommendations:

Employed as.....

C. *Recommendations*.—This employee is nervously ill. Would advise mental hygiene clinic. Closer inquiry into her work. Probably wise to advise other work. Liable to prove dangerous to others.

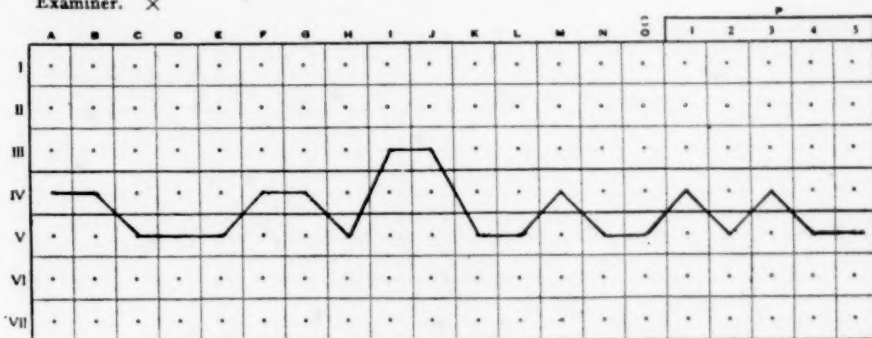
D. *Remarks*.—This case, woman aged 35 years, shows the value of psychiatric examinations. The work checks with foreman's opinion nicely.

CASE XXXVIII.

A. *Laboratory Report*.—Displeased. Suspicious. Worries about his work. Only fair attention (due probably to worry over this examination). Visual and auditory memory fair. Good reasoning ability. Quickly recognizes relationship of parts to a whole (assembling).

B. *Foreman's Opinion*.—This man does not seem right physically. Follows instructions well and has above average speed.

No. XXXVIII. Sex, Male. Age, 22 yrs. & 11 mos. Wage.... M. W. D.... Occupation....
 Organization. ×
 Plant. ×
 Department. ×
 Examiner. ×



Personality
 Character
 Habits

Recommendations:

Traits { Desirable.
 Undesirable. ×

References

Labor { Especially Skilled.
 Skilled.
 Experienced. ×
 Unskilled.

Employed as.....

C. *Recommendations*.—Find out why this man is displeased. He might be turned into an exceptionally good employee. Have a talk with him, find out his troubles.

D. *Remarks*.—This employee is aged 22 years and 11 months. Has had six months' high school. Lives with parents, who are poor. Has fainting spells occasionally, and insanity in immediate family. Pupils dilated. Knee-kicks exaggerated. Probably a dementia precox type.

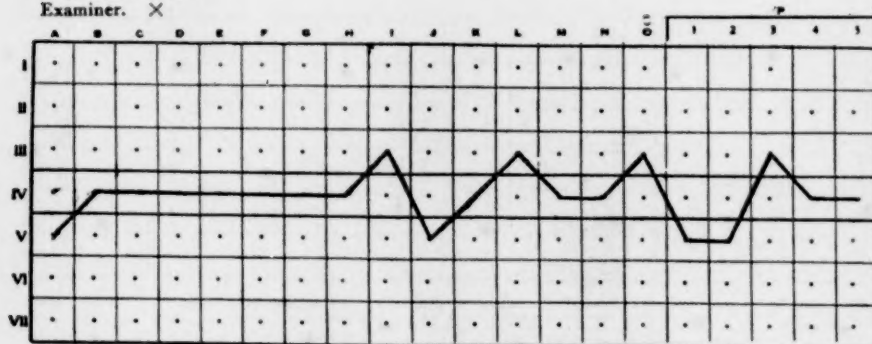
This is a good case to have visit *mental hygiene* clinic for further investigation for his own good.

CASE XLVI.

A. *Laboratory Report*.—Fairly accurate, slow. Auditory memory excellent (able to remember 10 digits). Attention is good. Especially able to quickly recognize relationship of easily recognized parts to a given whole (assembling). Leadership ability.

B. *Foreman's Opinion*.—A good workman. Ability to handle crew and get results. Slow but accurate.

No. XLVI. Sex, Male. Age, 23. Wage.... M. W. D.... Occupation....
 Organization. X
 Plant. X
 Department. X
 Examiner. X



Personality, pleasing.

Character

Habits

Traits { Desirable. X
 Undesirable.

References

Labor { Especially Skilled.
 Skilled.
 Experienced. X
 Unskilled.

Recommendations:

Employed as.....

C. *Recommendations*.—Retain this man if possible. Education is limited, but he has special leadership ability and sufficient mechanical ability and accuracy to make him valuable as a sub-foreman. Give him a chance to make good—higher up.

MARCHANT CALCULATING MACHINE CO.

RESEARCH DIVISION.

(DEPARTMENT _____.)

1. ACCURATE NAME OF JOB
2. NATURE OF JOB
-
- A. KIND OF WORK
- B. OPERATOR (MALE OR FEMALE)
- C. WORKING CONDITIONS
1. Dust
2. Light
3. Heat
4. Noise
5. Keen eyesight required
6. Speed required
7. Accuracy
8. Attention
9. Judgment
10. Automatic
11. Special skill or ability
12. Previous training necessary
13. Agreeable
14. Disagreeable
15. Planning ability
16. Ability required to quickly recognize relationship of well-defined
 and easily recognized parts to a given whole (assembling)
-
17. Analytical power associated with manipulating ability requiring
 attention and continuity of effort
18. Ability to observe and remedy defects (inspection)
19. Discrimination of form
20. Necessity for following directions accurately after careful and
 repeated explanations
- FOREMAN

(Should this sheet be inadequate to cover each item, use other side.)

SUPPLEMENTARY DATA.

The following information demonstrates more than words the value of medico-psychological examinations as a method to be used in employment departments of industrial plants:

In the assembling department of the Marchant Calculating Machine Co., Oakland, Cal., 57 employees were examined. About two months after the examination a "strike" occurred. The

reasons for the strike and the factors leading up to it will not be discussed in this communication.

In the case of every employee terminated for the group examined whether discharged or voluntarily leaving, the prediction of a possible abnormal conduct or a dissatisfaction was made in the laboratory report and recommendations to the employer.

A brief summary of the analysis of the situation following the strike follows:

ASSEMBLING DEPARTMENT.

Number of employees examined 57 (24 males, 33 females).

Number of employees examined who have

terminated 34 (9 males, 25 females).

Reasons for termination:

Strikers (discharged) 23 (6 males, 17 females).

Work unsatisfactory (discharged) 5 (2 males, 3 females).

Better position elsewhere 2 (1 male, 1 female).

Dissatisfied with work and wages 2 (females).

Husband returned from war 2 (females).

The *conduct* of the strikers is described by the foreman as "good," "fair," "very poor," and "agitators," divided among them as follows:

Good	5
Fair	7
Very poor	1
Agitators	10

According to the records, every one of the strikers had something wrong with them from a nervous or mental standpoint (nearly all having a psychopathic history); it was noted that with three exceptions the "strikers" cited as agitators were among those grading the highest on the intelligence scale used. The three exceptions can be explained as follows: One who graded 45 per cent, but had a sister who was also an agitator, but who graded high; one who graded 35 per cent, but the laboratory report shows him to be easily rattled, stutters, badly depressed at times, many nervous symptoms, and psychopathic heredity; one who graded 51 per cent, but whose education indicated that she should have graded higher, was timid, but had considerable self-assertion when crowded, besides having a definite psychopathic history.

Three of the strikers cited as "good" showed low grades: one 13 per cent, one 45 per cent, and one 57 per cent. The other two showed high grades: 87 per cent and 79 per cent, but the laboratory report in the one grading 87 per cent shows that she is very nervous, shut-in type, suspicious, many fears, psychopathic history.

The two leaving for better positions had high grades: one 97 per cent, who had been employed in this plant two years; one 75 per cent, who had been employed but one month (an unstable, nervous individual).

The two leaving on account of being dissatisfied: one had a grade of 89 per cent, but gives a very suspicious history, which, associated with her age (16 years), definitely indicates adolescent instability; one had a grade of 67 per cent, easily rattled and worried if put under any stress.

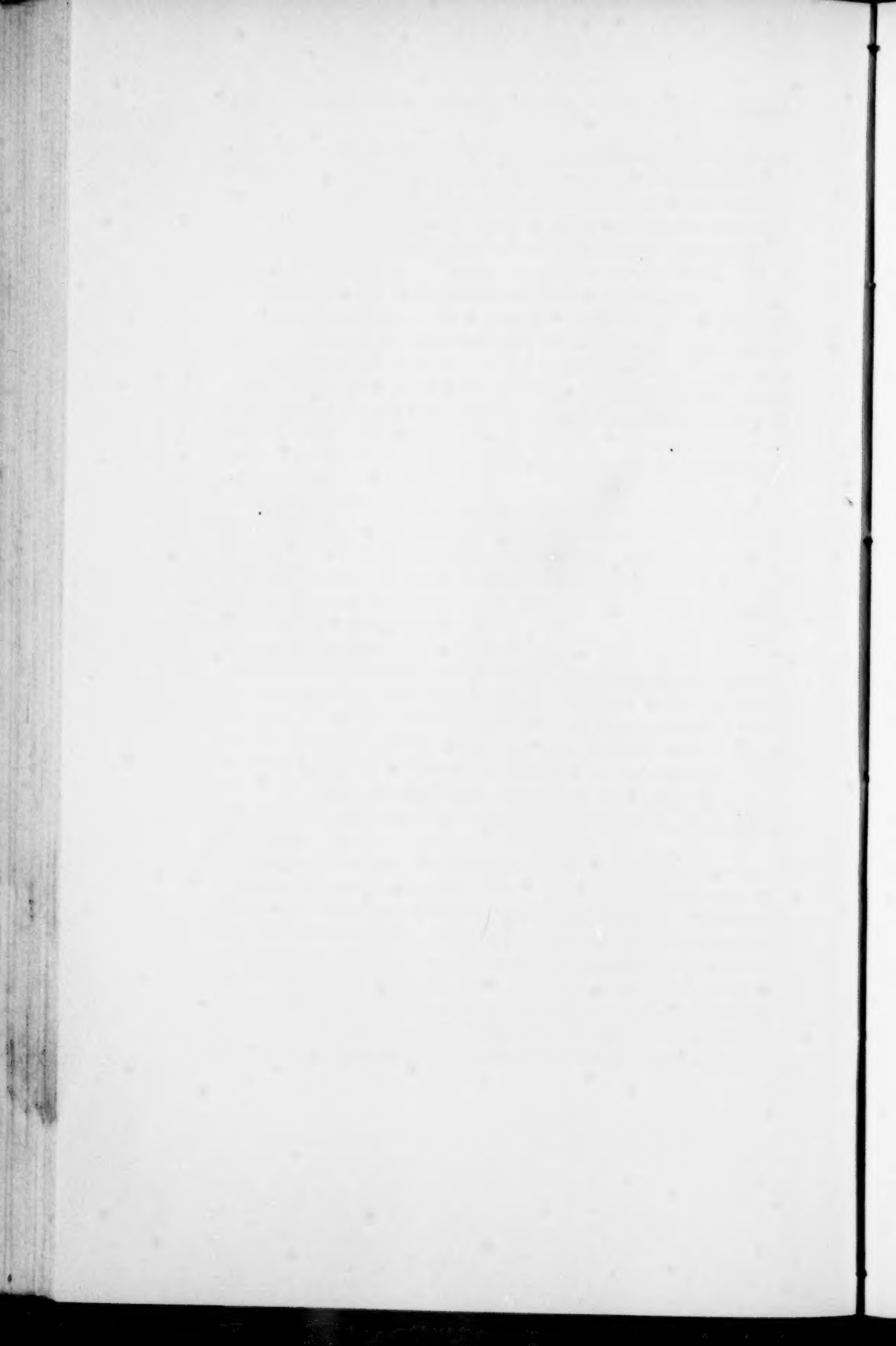
The five discharged for inefficiency showed low intelligence, or definite abnormal mental symptoms in four. The fifth had a very high intelligence (92 per cent), but very definite symptoms of mental trouble. Two others also showed definite mental symptoms, both being paranoidal and very suspicious. The grades for intelligence according to Stearns' test for this group were 28 per cent, 13 per cent, 55 per cent, 65 per cent, and 92 per cent.

We learn from a study of this *terminated* group that the agitators were the ones with the *highest intelligence* as a rule; that the "good" one showed *low intelligence* or *some nervous condition* inhibiting the self-assertive instinct; that the ones leaving for better positions were *high in intelligence*; that those leaving because of dissatisfaction were *definite psychopaths*; that the inefficient ones discharged showed *low intelligence* or were mentally wrong.

The above brief analysis demonstrates the success of a medico-psychological examination in spotting types and giving accurate information regarding individuals. It could not be concluded from this or any other examination that all strikers, whether agitators or not, are psychopaths; but this examination does show that the agitators in this group were the *self-assertive* ones and the ones grading the *highest in intelligence*, the others simply followed the leader. It is not proposed here to enter into a discussion of the causes leading up to the stimulation of this self-assertive

instinct and the resulting conduct. It is necessary, however, to call attention to the value of the examinations in predetermining conduct, and thus enabling the employer to remedy conditions which would be likely to cause trouble in his plant.

Of especial value of this "*coordinate*" method of examination is the determination of "queer guys," "eccentrics," "disturbers," "querulous persons," "unreliable and unstable fellows," "misfits," "the irritable," "the sullen," "socially disgruntled," "unsociable," "negative," "conscientious," "litigious," "bear-a-grudge," "peculiar," "glad-hand," "gossipy," "roving," "restless," "malicious," "lying," "swindling," "sex pervert," "false accusator," "abnormal suggestibility," and "mental twist" types!



Notes and Comment.

THE MEDICO-PSYCHOLOGICAL SOCIETY OF PARIS.—At the opening of the sitting of the Society on the 25th of November, 1918, M. Colin, President, in an eloquent address made reference to the critical period through which the nation had recently passed. To strangers, familiar only with the boulevards of Paris, France had appeared to be a decadent country, but this appreciation showed a profound ignorance of the true spirit of France. France did not require to be rehabilitated; France had continued to be, even after 1870, the "soldier of the ideal," while Germany was brutally preparing its later aggression. Just as earlier, after the first empire, France had tended to exalt Germany as the home of poetry and good feeling, after 1870 it tended to exalt Germany as the model of efficiency. Against both these tendencies the President warned his audience, for German hatred of France is far from being extinguished. Suitable references were made to the losses sustained by the Society during the war, and with considerable emotion the President referred to the fact that the Secretary of the Association, M. Ritti, was a native of Strasbourg.

After sending messages to similar societies in the allied countries, on the motion of M. Semelaigne the Society adopted the following resolution: "The Medico-Psychological Society declares that even after Germany shall be again admitted into the ranks of civilized nations, the Society will abstain from every relation with German scientists who shall not have publicly admitted and disavowed the crimes committed by their compatriots in the course of this war."

In proposing this motion the speaker referred to the document prepared by the scientists of Lille, presenting to the Institute of France and other bodies the records of the atrocities, which they themselves had witnessed. The Academy of Medicine on receipt of this report had decided to postpone all collaboration with German scientists until they had publicly disapproved of the atrocities committed by their government during the war. The

scientists of Lille especially emphasized the fact that the infamous acts committed by the Germans were not to be considered merely due to the government, but were carried out with the hearty co-operation of the individual soldier, not necessarily the professional soldiers but men recently drawn from civil life. "Those responsible for the policies of Germany have willed this war, but the people in arms have approved it and have carried it out with measures of ferocious cruelty, without scruples of conscience, without any movements of indignation."

THE DEFECTIVE, THE SURGEON AND THE LAW.—Not so long ago a wave of "Efficiency" swept over our country, and was accepted and adopted with characteristic celerity by all classes and kinds of men. Its origin lay in rapid evolution of large enterprise, in the centralization of commerce in busy marts and in concentration and specialization of mechanical skill in enormous factories. It was based upon a theory of the subdivision of labor, and it looked to the perfection of automatic action in the individual, that some small part of each fabrication might be his contribution to an intricate and expansive mechanism. It was not a new idea, but an old one carried to an extreme degree, for society is naturally an assembly of different human characteristics, each one assisting in the "silent and concealed work of centralization." Guizot (*History of Civilization in Europe*) attributes the beginnings of this centripetal force to the sixteenth and seventeenth centuries, when man began to advance "the execution of a plan which he has not himself conceived, or which, perhaps, he does not even understand." But Guizot accredited man as an "intelligent and free artificer," an assumption alien to the philosophy of the modern apostle of Efficiency. And his illustration was singularly apt in its application to the theory of this later day: "Conceive a great machine, of which the idea resides in a single mind, and of which the different pieces are confided to different workmen, who are scattered, and are strangers to one another; none of them knowing the work as a whole, or the definitive and general result to which it concurs, yet each executing with intelligence and liberty, by rational and voluntary acts, that of which he has charge."

From the shop and the forge the doctrine of Efficiency invaded the university, and old and honored curricula yielded to a system of intellectual training which aimed to perfect certain attributes of the mind at the expense of others. The classics, the humanities, the lessons of history, of philosophy and of art—all that contribute to broad culture, the allurements of life and the beauties of this world—were thrust aside in a mad rush for the "practical."

The final step in this evolutionary system, not content with perfecting the individual of the present, sought to purge the future of inferior beings. The philosophy of Eugenics afforded an opportunity to project the doctrine of Efficiency for the benefit of coming generations, and laws were enacted in several states of the Union, looking to the prevention of procreation by the sterilization of the unfit.

These statutes generally authorized commissions, as in New York (1912), for instance, "To examine into the mental and physical condition and the record and family history of the feeble-minded, epileptic, criminals and other defectives confined as inmates in the several state hospitals for the insane, state prisons, reformatories, and charitable and penal institutions of the state, and if, in the judgment of the majority of said board, procreation by any such person would produce children with an inherited tendency to crime, insanity, feeble-mindedness, idiocy, or imbecility and that there is no probability that the condition of any such person will improve to such an extent as to render procreation by any such person advisable, or if the physical or mental condition of such person will be substantially improved thereby, that then the board shall appoint one of its own members to perform such operation for the prevention of procreation as shall be decided by said board to be most effective."

In order to test this law, a husky male inmate of the Rome State Custodial Asylum for Feeble-Minded was selected and the operation of vasectomy was prescribed for him. The proposed victim was 22 years of age with mental development of a child of eight. Appropriate legal procedure was taken to bring the case before the Supreme Court of the state, and testimony was taken.

Dr. Bernstein, superintendent of the institution, stated that he was not in favor of the operation, and did not know of a case in

the 1300 in his care upon whom it would be desirable to operate; "that it would not help the boy, and it would not help society." He asserted that the boy would need just as much care after the operation as before, and emphasized the need by the present generation of protection from the frightening and raping of girls just as well as the possible and problematical relief of the next from delinquents.

Dr. Fernald, superintendent of the Massachusetts School for Feeble-Minded, testified "That he had never seen an authorized medical statement based upon the actual facts which would justify claims made for the results in Indiana where such a law is in operation; that the operation of vasectomy does not in the slightest interfere with the physical act of sexual intercourse; that illicit intercourse would result, and the effect thereof would be the exchanging of the burden of feeble-minded for the burden of sex immorality or sex diseases and of insanity resulting in that condition which would be quite as serious."

Mr. Justice Rudd, in delivering his opinion, touched cleverly upon the eugenic, moral, social and economic questions involved in the case.

The law of heredity cited by Dr. Bernstein, "We are taught that the dominant traits appear in three-quarters of the offspring, and recessive traits appear in one-quarter, when the parentage is mixed as regards traits; that it is only in cases of feeble-mindedness of both parents that you would look generally for an increase of feeble-mindedness among offspring," was interpreted by the court in the following terse epigram: "In other words, that when one parent is feeble-minded and the other of normal mental capacity, the tendency is recessive, that is, toward the normal"; the expert's conclusions were further accepted that "vasectomy would not change any of the criminal tendencies of the feeble-minded at all; it would only eliminate the one element of procreation; . . . would tend to create a class of people who would . . . go back to promiscuous sexual relations . . . and that such illicit intercourse is a promoter of disease and general demoralization."

The laws of Eugenics, so far as they are known, deal with generalizations; "with the inheritance of traits; with changes in

population through differential fecundity; . . . with changes of population from emigration, or better or worse strains; with hereditary basis of the traits of population." These laws cannot predicate the status of the unborn individual for there is "much of good in the most degenerate families in our land, as the Jukes and the Nams."

Upon the expert testimony the court could not find justification for the operation, "either upon the facts as they exist to-day or in the hope of benefits to come."

In discussing the law itself Mr. Justice Rudd summarizes in no uncertain tone the alleged violation of the Constitution of the United States, "That it is a bill of attainder; that it is depriving citizens of a trial by jury, and also of the privileges or immunities to which citizens of other states are entitled; that it is compelling a citizen to be a witness against himself, and depriving him of life, liberty and property without due process of law; that it permits infliction of a cruel and unusual punishment. . . ."

The court visions in the enactment of the law a purpose to "save expense to future generations in the operation of eleemosynary institutions organized by the people of the state to care for those who are afflicted," and to permit the present generation of defectives to wander at large, which is not a "proper exercise of the police power," and is "almost inhuman in its nature."

For all these reasons the law is offensive to that part of the Fourteenth Amendment which declares "that no state . . . shall deny to any person within its jurisdiction the equal protection of the laws."

In contravention is cited "an interesting and most readable opinion" by the attorney general of California: "As regards the castration of confirmed criminals and rapists, and those guilty of sexual crimes, I am of the opinion that these are grave constitutional questions, but as restricted to the sterilization of the inmates of prisons and hospitals by the method of vasectomy, I am of the opinion that there are no legal inhibitions upon this enlightened piece of legislation which is an awakening note to a new era and a great advance toward that day when man's inhumanity to man will have acquired a meaning beyond mere frothy sentiment," which legal flight into the empyrean calls forth

the following caustic dubitation as it exists in the thought of Mr. Justice Rudd: "Why sterilization by vasectomy of patients in a hospital, who are grouped as a class with rapists in a state prison, strikes an awakening note in a new era and will lead to the day to which the attorney general so poetically refers, is beyond the comprehension of this court and is not enlightening."

The court consequently decides that "the statute is unconstitutional, and therefore invalid," and authorizes "judgment may be entered accordingly."

May the judgment be universal! Humanity is under obligation to Mr. Justice Rudd for this clear exposition of the fallacies of an experimental project. The world has recently participated in the most determined and most bloody demonstration of Efficiency in history, and wants no more of it. Guizot recognized the differentiation of capacity in the march of civilization with the reservation of its intellectual basis, the essential element of progress which is ignored by the modern promoter. If the altruistic purpose of the present generation reaches into the future, the improvement of the species may be best found in cultivation of physical and mental excellence, and not by a program which begins with physical mutilation and terminates, in cumulative action, in destruction of all the finer sentiments of the race—faith, hope, charity, sympathy for affliction and distress, admiration of the good and beautiful, and, at last, in annihilation of the highest human feeling, parental love.

M.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION SEVENTY-FIFTH ANNUAL MEETING.—The seventy-fifth annual meeting of the American Medico-Psychological Association will be held at the Bellevue-Stratford Hotel, Philadelphia, June 18, 19 and 20.

It is quite fitting that the seventy-fifth annual meeting of the Association should be held in Philadelphia where the Association at a meeting of the memorable thirteen original members had its first session on October 16, 1844. There have been since that first meeting seven meetings in Philadelphia, namely in 1857, 1860, 1867, 1876, 1880, 1884 and the Fiftieth Annual Meeting in 1894.

The following is a preliminary program for the three days:

WEDNESDAY, JUNE 18, 10.00 A. M.

Organization.

Addresses of Welcome.

Reports—

Committees.

Council.

Treasurer.

Editor of JOURNAL OF INSANITY.

Appointment of Nominating Committee.

Memorial Notices.

President's Address.

Address by Dr. G. Alder Blumer.

WEDNESDAY, JUNE 18, AFTERNOON.

Administration and State Problems.

Special papers on this subject have been solicited and promised, outlining the recent trends in State supervision.

Several other papers are promised on related subjects.

WEDNESDAY, JUNE 18, EVENING.

Round Table Conferences.

Each member is expected to pay his own supper bill, but to dine in company with those interested in his own line of activity. It will be an informal breaking up into sectional discussions combined with a social gathering of more or less congenial spirits. We expect to send out cards some time before the meeting, and ask the members to indicate the group with which they would like to dine. Each group will be presided over by a leader or moderator to direct the informal discussions, and as far as possible these moderators will be chosen from the chairmen of the corresponding standing committees. The following groups have been tentatively suggested: 1—Ladies; 2—Administrative; 3—Military; 4—Scientific Investigation; 5—Occupational Therapy; 6—Nursing. Following these round table suppers, we will reassemble for a smoker, with a short address at about 9.30 or 10.00 p. m.

Return cards will be forwarded to Association members later, and no places will be reserved except for those who have returned cards indicating their choice of groups.

THURSDAY, JUNE 19, 10.00 A. M.

This session will be given over to papers of psychiatric interest from the military standpoint.

THURSDAY, JUNE 19, AFTERNOON.

Reconstruction.

Critical and constructive suggestions on undergraduate, postgraduate and institutional training in Neuropsychiatry.

THURSDAY, JUNE 19, EVENING.

Annual Address.

President's Reception.

FRIDAY, JUNE 20.

The three sessions on Friday will be devoted to papers on Clinical Psychiatry, Scientific Subjects and Statistical Classification.

An invitation has been extended by the Managers of the Pennsylvania Hospital to a luncheon at noon on Friday at the birthplace of the Association.

The address by Dr. Blumer on the first day is, we understand, to be a review of the advances of Psychiatry in the last three quarters of a century.

The list of members who have promised papers embraces some twenty-seven names, so that there will not only be a sufficient number of papers read, but doubtless of a wide variety.

Abstracts and Extracts.

YERKES, ROBERT M.: *The Binet Versus the Point Scale Method of Measuring Intelligence*. (Journal of Applied Psychology, 1917, Vol. I, pp. 111-122.)

The Binet method apparently rests on the assumption that important forms of behavior *appear* at various times during infancy, childhood and adolescence. The point scale methods, on the other hand, are chosen from the standpoint of functions to be measured, and without particular relation to the stages of human development. The Binet scale is based upon the assumption of appearing functions; the point scale on the assumption of developing functions. The result of the Binet method is an inflexible scale, which, however accurate it may be for the race, social stratum or sex for which it was constructed, cannot possibly yield reliable results when applied to widely differing groups of individuals. But in order to use the point scale profitably for a new race, or social group, it is necessary only to make a sufficient number of examinations, to yield reliable norms. The Binet method supplies judgments of success or failure—"all-or-none" judgments. These are rather the forerunners of quantitative statements than themselves quantitative. In the point scale, judgments are of the more-or-less type. There is awarded a particular amount of credit which supposedly varies in correspondence with the character or amount of response. A number of tests in the Stanford Revision are highly dependent on education. Means should be devised of measuring the fundamental forms of behavior as they develop; our scales for mental measurement may well come to consist of independently graded and standardized tests which can be used either alone for the measurement of particular response, or in such groups as need dictates. Tables are quoted, contrasting the principles of the Binet and point scales, analysis of the Stanford scale, according to place of test and function measured.

YERKES, ROBERT M., and BURTT, HAROLD E.: *The Relation of Point Scale Measurements of Intelligence to Educational Performance in College Students*. (School and Society, 1917, Vol. V, pp. 535-540.)

The authors summarize their conclusions to say that the men of the groups in question rank in the point scale tests higher than the women. This superiority is especially marked in tests which involve reasoning or other fairly complex thought processes, while the sex differences are least for tests of perception, memory and imagination. 16 per cent of the women are of subnormal intelligence as compared with 12 per cent of the men. The correlation of point scale measurements with educational performance is strikingly positive for the men and somewhat less positive for the women.

SCOTT, WALTER DILL: *A Fourth Method of Checking Results in Vocational Selection*. (Journal of Applied Psychology, 1917, Vol. I, pp. 60-66.)

Various checks have been devised for testing the adequacy of a vocational selection method. One method is to compare rank in the tests with a "firm rank," secured from collective estimates by employers. A second method is to have experienced men or "ringers" take the tests with the applicants, and observe if their performance in the tests shows them to be relevant. A third check, and the most adequate, is that of vocational accomplishments, and consists in comparing the test performance with the rank afterwards achieved in actual work. The fourth method is described under the name of "applicants-experts" method, and consists in a comparison of scores made by applicants with scores made by men of known capacity. Essentially, it is a refinement of the "ringer" method, and its advantage is that, in proportion to its reliability, the results are relatively soon available.

GUILLET, CEPHAS: *A Study of the Memory of Young Women*. (Journal of Educational Psychology, 1917, Vol. VIII, pp. 65-84.)

The results of the investigation suggest to the author the comparative futility of formal memory "training." Even if possible, it is hardly worth while. The teacher should attend rather to training the understanding and judgment and the powers of linguistic expression in the pupil. "Once a child has been gotten to express an idea clearly in his own words, he is guaranteed against forgetting it." The teacher should aim at presenting culture material in such a way that it will enter into vital relation with the child's immediate mental complex. At present, many facts and details are drilled upon pupils while still devoid of all fruitful meaning to them. Their effort is out of all proportion to the value of the matter presented; it should wait for maturer years, when it can be more profitably assimilated.

MULLAN, E. H.: *Mental Status of Rural School Children*. (Public Health Reports, 1916, Reprint No. 377, pp. 16.)

A total of 3793 children was studied. The routine Binet procedure was supplanted by a briefer sifting process. The tests used for this purpose were the Knox cube, repetition of digits and arithmetical problems. In the first, four cubes were used with the lower, and five with the upper grade children. Patterns and statistical tables are quoted. Two trials were given for the repetition of each series of digits, and if the child failed on seven, many further trials were made on this number. Above 12 years, failure here was a frequent symptom of mental deficiency. The arithmetical problems were of the concrete type. These sifting tests occupied four or five minutes. It is concluded that while mental deficiency cannot be diagnosed by the Binet scale alone, it forms an excellent means for finding out about the child through the medium of incidental observations. Five-tenths of 1 per cent of the children examined were found

feeble-minded to the degree of requiring institutional care, and an additional 1.3 per cent are assigned as probably belonging to this group. The survey also suggests that epilepsy is a more prevalent disease than has been hitherto supposed.

TERMAN, LEWIS M., and others: *A Trial of Mental and Pedagogical Tests in a Civil Service Examination for Policemen and Firemen*. (Journal of Applied Psychology, 1917, Vol. I, pp. 17-29.)

The pedagogical examination consisted of Trabue completion tests, the Thorndike oral reading test, samples of handwriting rated by the Ayres scale, a very efficient spelling test devised by Otis, and some tests of arithmetical processes. Thirty candidates were examined individually by the abbreviated Stanford scale, and later with the pedagogical tests in groups. A distribution of the *IQ*'s has its mode at 80-84. The quartiles are 78 and 91. It was actually recommended that candidates with *IQ* below 80 be rejected. A table of inter-correlations is given of the *IQ*, the various pedagogical tests and salary. Salary correlates best (61) with *IQ*; the *IQ* correlates best (81) with arithmetical reasoning, this being also the highest correlation in the table. The correlation on chronological and mental age was $-.05$, and that of age with completion ability and arithmetical reasoning was $-.07$ and $.03$, respectively. It is remarked that the salary to be paid the men placed on the eligible list (median *IQ* 89) is considerably higher than that paid the average California teacher (*IQ* usually above 110).

BAIRD, JOHN WALLACE: *The Legibility of a Telephone Directory*. (Journal of Applied Psychology, 1917, Vol. I, pp. 30-37.)

The essential aim of the investigation was to determine the time required to find a telephone number from four arrangements of page. The test pages were mounted in a special booklet. A given name was read or shown to the subject, who repeated it, and then proceeded to find the telephone number. There was measured the time elapsing between the opening of the booklet on the announcing of the telephone number. Average times in the four arrangements of page were found as 10.36, 10.69, 10.14 and 9.28 seconds, respectively. This last is with a leaded four-column page. A telephone directory thus printed is not only the most legible, but is about 20 per cent reduced in bulk over the previous style. The average finding time for the most practiced group of subjects was 6.46 seconds and for the least practiced, 15.20 seconds.

THORNDIKE, EDWARD L.: *Reading as Reasoning: A Study of Mistakes in Paragraph Reading*. (Journal of Educational Psychology, 1917, Vol. VIII, pp. 323-332.)

It is intended to show that reading is an elaborate procedure, involving a weighing of each of many elements in a sentence, the selection of certain of their connotations and the rejection of others, and the cooperation of

many forces to determine final response. This is illustrated in having a short paragraph read and then calling for answers to questions involving a knowledge of its content. In correct reading: (1) Each word produces a correct meaning; (2) each such element of meaning is given a correct weight in comparison with others; (3) the resulting ideas are examined and validated in relation to the mental set or adjustment for which the reading was done. Reading may be wrong or inadequate: (1) Because of wrong connections with the words singly; (2) over-potency or under-potency of elements; (3) failure to treat the ideas produced by the reading as provisional, and so to inspect and welcome or reject them as they appear. Understanding a paragraph is like solving a problem in mathematics. It consists in selecting the right elements of the situation and putting them together in the right relations, and also with the right amount of weight or influence for each. While the work of judging and applying doubtless demands a more elaborate and inventive control of mental connections, the demands of mere reading are also for the active selection which is typical of thought.

The vice of the poor reader is to say words to himself without actively making judgments concerning what they reveal. Reading aloud or listening to reading aloud may leave this vice unaltered or even encouraged. Perhaps it is in their outside reading of stories and in their study of geography, history and the like, that many school children really learn to read.

MOORE, HENRY T.: *Laboratory Tests of Anger, Fear and Sex Interest*. (American Journal of Psychology, 1917, Vol. XXVIII, pp. 390-395.)

The plan of the experiments was to measure the effectiveness of emotional disturbance in terms of delay in the solution of a problem given just prior to the introduction of the emotional stimulus. The problems were in mental multiplication, whose normal times and limits of variation were previously determined. The tests for anger were meant to involve: Anger at an unjust accusation; anger at bodily annoyance at the hands of another person; anger at having been prevented from carrying out a called-for task. Fear stimuli were concerned with snakes, personal attack in the dark, electric shock and falling. Sex stimuli were with photographs of nudes. Other stimuli of a sensory repulsive character and situations involving embarrassment were employed. It is concluded that the individual variations in the above tests are sufficient to permit the ranking of subjects in respect to the amount of interference created by a given emotion. The fear stimuli caused the most powerful disturbances. Anger and embarrassment caused much less disturbance. Negative results appeared with sex interest and repulsion. A negative correlation of .48 appeared between the effects of anger and fear.

HULL, CLARK L.: *The Formation and Retention of Associations Among the Insane*. (American Journal of Psychology, 1917, Vol. XXVIII, pp. 419-435.)

As the conclusions are summarized, considerable impairment of the power of forming associations is found in constitutional inferiors, dementia præcox and general paralysis cases. It is much more marked in paretics of a given degree of dementia than in the other two types. No disturbance of retentiveness is found in any of the three types. The "fluctuation span" of the pathological subjects was found to be about twice as great as the normal.

JONES, EDWARD S.: *The Woolley Test Series Applied to the Detection of Ability in Telegraphy*. (Journal of Educational Psychology, 1917, Vol. VIII, pp. 27-34.)

The test series was studied in connection with the telegraphic skill of 22 boys, this skill being derived from the judgments of teachers of the rank of each individual in the group. The type of ability called for in telegraphy seems fairly well correlated with ability in certain psychological tests. When six of these records are taken together, their correlation with the judgment of ability is as high as 81. The correlation of the initial and final rankings of the individual teachers was somewhat less than this. By immediate testing with certain selected tests, it seems that more can be known of future telegraphic ability than by judgments of individual teachers after four months of contact with the pupils.

Substitution test measurements and the recognition test indicate no close relationship with telegraphic ability; the opposites test and sentence test measurements, on the other hand, give a high correlation with telegraphic ability as estimated. "It is impossible to predict in advance what tests will correlate highly with special kinds of abilities."

MUSCIO, BERNARD: *The Influence of the Form of a Question*. (British Journal of Psychology, 1916, Vol. VIII, pp. 351-389.)

This is a study in the psychology of testimony. Binet's and Lipmann's studies are reviewed, with a summarizing of Lipmann's classification of forms of question. The attempt is made to investigate the influence upon the answers of: (1) The "direction" of the question, whether subjective or objective; (2) the use of articles (definite or indefinite). A moving picture film, requiring 25 to 28 seconds to reel off, was the method of stimulus. About an hour was spent in the questionnaire for each exposure. The subjects numbered 56, 21 women and 35 men, mostly university graduates or students. It is found that certain forms of questions are less reliable, *e. g.*, those containing a negative or the definite article. "There is little to choose between subjective-direction and objective-direction questions considered as instruments for the discovery of truth. Never-

theless, their answers exhibit great differences, and it is in the interest of justice that these differences should be recognized." Illustrations are given from court-room procedure.

PINTNER, RUDOLF, and TOOPS, HERBERT A.: *A Chart for Rapid Computation of Point Scale Scores*. (Journal of Delinquency, 1917, Vol. II, pp. 209-210.)

The authors give in tabular form the coefficient of mental ability represented by any performance in the Yerkes point scale at any age. An additional column gives the corresponding mental ages. It is an exceedingly useful piece of work, eliminating much of the time wasted in arithmetical computations incidental to intelligence examinations. Apparently the same thing should be done for the Stanford Revision, using the unit of two months' credit in place of the Yerkes "point."

PINTNER, RUDOLF: *A Mental Survey of the School Population of a Village*. (School and Society, 1917, Vol. V, pp. 597-600.)

There were tested 154 children from the grades of a village with 913 inhabitants. Five group-tests were used: Rote memory for concrete words, digit-symbol, symbol-digit, word building, and easy opposites. The performance in the tests is evaluated in terms of percentile ability for each age. The median percentile score of the five tests is used as the mental index of the child. An estimation of the mentality of the entire school and of each grade is thus possible. The school tested appears slightly below normal, having many backward children, and comparatively few bright ones

Half-Yearly Summary.

ARKANSAS.—*State Hospital for Nervous Diseases.*—The legislature recently made an appropriation of \$25,000 for a tubercular building, \$25,000 for a dairy and \$50,000 for new buildings on a five hundred acre tract recently purchased. This farm and the new tubercular building will relieve the congested condition of the hospital, which is the only one in the state.

A school for feeble-minded children is being established here. This is one of the most urgent needs of the hospital.

CALIFORNIA.—At a meeting of the California Society for Mental Hygiene held February 2, 1919, the passage of several bills was urged. One of these creates a psychopathic hospital, another establishes a department of psychology at the state penitentiary, and a third makes it possible for mild mental cases to be admitted for observation to the state hospital on temporary commitments.

CONNECTICUT.—The Connecticut Society for Mental Hygiene held its eighth annual meeting at the rooms of the Hartford Medical Society on December 18, 1918. The following were elected officers: President, Professor Charles A. E. Winslow (re-elected); Secretary, Dr. Thomas N. Hepburn; and Treasurer, Mrs. Josephine B. Bennett.

All patients of the former Connecticut School for Feeble-minded at Lakeville have been transferred to the Mansfield State Training School.

—*Connecticut Hospital for the Insane, Middletown.*—During October and November the hospital suffered from the prevailing epidemic of influenza, there occurring 292 cases. A quarantine for visitors was established, patients' assemblies were discontinued, and the usual prophylactic measures of personal hygiene were adopted. But 7 per cent of the patients suffered from the disease, although over 26 per cent of the employees developed it, a considerable number of the latter living off the hospital grounds, and thus being more exposed to contagion. Twenty-three deaths occurred, or approximately 9 per cent of the total number of cases. The use of the O'Leary anti-influenza vaccine was instituted as a prophylactic measure, but after being administered to 67 persons, 7 of whom subsequently developed the disease, its use was discontinued.

The so-called "Frisbie property," lying between the hospital grounds and a neighboring street, has been purchased. The property is suitable for building sites, but will be used the coming summer for gardens for women patients.

The new concrete piggery has been completed, and is a very satisfactory unit. By the extensive use of patient labor in its construction, the cost was brought slightly below the estimated cost of \$12,000.

Patient labor has also been largely utilized in removing the old greenhouse from its former site, adjacent to the Main Building, to its new site, adjacent to and connected with the new greenhouse erected two years ago.

The card system of collecting statistical information was adopted in connection with the uniform statistical records, as was a card system which shows the service records of all employees, and upon which promotions and salary increases will hereafter be based.

The forty-watt electric lamps formerly in use are gradually being replaced throughout the hospital with one hundred-watt lamps, such replacement having been completed in the North Wing, Main Building, and the Middle Hospital. The larger lamps not only give more efficient lighting, but only 25 per cent as many lamps are required, and the life of the lamps is more than doubled.

On December 18 an exhibition and sale of the products of the occupational classes was held in the Amusement Hall. Booths and decorations were all arranged by members of the various classes. During the afternoon and evening approximately 500 persons were present, and over \$800 was received from sales. The most interesting booth from a medical standpoint was that containing articles made by disturbed and untidy patients. Such articles were not sold, because of their educational value to new employees.

During the fourth Liberty Loan campaign the officers and employees of the hospital purchased \$30,900 worth of bonds. During the War Work campaign in November the hospital contributed \$500. During the Red Cross membership campaign in December, 351 members were secured, or approximately 80 per cent of all employees.

IDAHO.—The sterilization of mentally and socially unfit persons has been advocated by Dr. D'Orr Paynter, Superintendent of the Idaho State Sanitarium at Nampa, in his report to the trustees of the institution.

ILLINOIS.—It is announced that new buildings of the cottage type are to be constructed at the Dixon State Colony and that 700 patients are to be transferred to it from other state institutions.

INDIANA.—The third annual meeting of the Indiana Society for Mental Hygiene was held at Indianapolis, December 16, 1918, under the presidency of Dr. William T. Bryan, President of the State University at Bloomington.

—*Eastern Indiana Hospital for the Insane, Richmond.*—On March 5, 1919, a disastrous fire occurred in the men's building. One patient was burned to death and another was unaccounted for. Twenty-two bedridden patients were removed without mishap. The property loss was \$25,000.

MARYLAND.—*Sheppard and Enoch Pratt Hospital, Towson*.—The Sheppard and Enoch Pratt Hospital suffered a very serious loss on the 21st of December, 1918, in the death of Dr. George B. Wolff, who had been connected with this hospital as an assistant physician since June, 1912.

Dr. Wolff was shot and killed by Dr. Norboru Ishida of Nagasaki, Japan. Dr. Ishida came to America in the latter part of December, 1917, together with two or three other Japanese physicians who were sent over by the Department of Education of Japan to make some studies in various departments of medicine. Dr. Ishida's object was to investigate the conduct of hospitals in this country and to study methods of care of the insane and psychiatry in general. Coming almost immediately to Baltimore early in January, 1918, he commenced work in the Henry Phipps Psychiatric Clinic of the Johns Hopkins Hospital and at the Sheppard and Enoch Pratt Hospital. Until August it was his habit to spend part of the week at the Henry Phipps Psychiatric Clinic and two days at least at the Sheppard and Enoch Pratt Hospital. About the middle of August he came to the Sheppard and Enoch Pratt Hospital to reside and to render such assistance as he could in the work of the hospital, the staff having been depleted early in the year by the entrance of Dr. Humphrey D. Wolfe into the Medical Corps of the United States Army and in August by the entrance of Dr. George F. Sargent into the same service. Nothing unusual was noticed in Dr. Ishida's conduct toward any member of the staff. He was attentive to whatever duties were assigned to him and was busily engaged in doing some special work which he had outlined for himself. It appears, however, that he had commenced to harbor some suspicions concerning Dr. Wolff, but in his relations with the doctor he gave no evidence to any one that he had any but the pleasantest feelings toward him. On the evening before the tragedy he was seen talking and laughing with Dr. Wolff in the library of the hospital, and had that afternoon ridden out in the trolley car from Baltimore with the doctor and the hospital housekeeper, carrying on a pleasant and active conversation with them while in the car. As they left the car at the entrance to the hospital grounds he stated that he was going to Towson, the postoffice town of the hospital, to get some Christmas cards which he had forgotten. In fact, he went to Towson to secure Dr. Wolff's arrest for slandering him and calling him a spy, but was unable to find the magistrate either at his office or his residence. It appears that before coming from town he had also gone to a police station for the same purpose, but was told by the officer in charge that the police of Baltimore had no jurisdiction over residents of Baltimore County. While in town he purchased a revolver and as far as can be ascertained did this before applying to the police.

On the morning of the tragedy Dr. Wolff was engaged together with Dr. Dunton from nine to ten o'clock in the hospital library with a class of nurses. At the conclusion of the conference Dr. Wolff walked to Dr. Dunton's office, where Dr. Ishida was sitting, and was apparently shot the first time while standing at Dr. Dunton's desk looking over the re-

port of the night nurse for the night previous. One bullet entered the back and lodged in the spinal column. Another bullet apparently fired after he had fallen, entered the upper part of the abdomen and tore through the inferior vena cava, resulting in the doctor's death by hemorrhage. The third bullet struck his cheek near the malar prominence and passed out near the corner of the mouth without penetrating the buccal cavity and lodged in the floor. Dr. Ishida was seized and disarmed as soon as he could be reached, and said, in explanation, "I have shot Dr. Wolff. He called me a Japanese spy and a traitor to my country and this country." Upon being taken to jail he made a written confession in which he added to what he had already said that he had committed the act for the honor of a woman. He afterwards explained this statement as testified by Dr. Charles G. Hill, who examined him in jail, by saying that Dr. Wolff the Wednesday evening previous to the tragedy had assaulted one of the nurses in the Nurses' Home by pounding and beating her until she cried out, but that no one came to her relief. At the time of this alleged assault by Dr. Wolff the nurse to whom he referred was busily engaged on night duty in another part of the building.

Dr. Ishida was indicted for murder in the first degree, and on the 17th of March was placed upon trial before Judges Burke, Duncan and McLane of the Circuit Court for Baltimore County without a jury. The trial lasted three and a half days and ended in the conviction of murder in the first degree. Because, however, of some apparent doubt in the minds of the judges as to his mental status at the time of the murder, he was not sentenced to be hanged, but on the contrary, to imprisonment for life in the Maryland Penitentiary.

A brief obituary notice of Dr. Wolff appeared in the JOURNAL for January.

Dr. Charles H. Riley, who has been a trustee of the Sheppard and Enoch Pratt Hospital since 1887, and who succeeded Mr. George A. Pope as president of the board early in 1918, died at his residence in Baltimore on January 23, 1918.

Dr. Riley had been a practitioner of medicine in Baltimore since 1881. For some years his practice has been largely confined to gynæcology and obstetrics and for a time he gave lectures on obstetrics in the Woman's Medical College of Baltimore, which institution is no longer in existence.

MASSACHUSETTS.—*Gardner State Colony, East Gardner.*—A woman has been added to the staff to act as companion (or social service worker within the hospital) to the patients. She, trained as a teacher in the public schools, has a knowledge of music, and will act as companion to the patients, both male and female, encouraging the reading of papers and magazines, library books, playing of games, arranging for special entertainments, assisting patients to keep in touch with their friends and relatives and in writing letters to them, and assisting in every way to make the daily life of the patients happier.

This companion will assist the medical staff in looking after the daily welfare of patients in a manner practically impossible for members of the medical staff to do because of their many other duties. Beneficial results are already being seen in the more active interest in reading, recreation and entertainment, and in letter writing by those patients who require some stimulation, which should result in a greater interest being taken in them by their relatives. It is expected that much good will result from the efforts of this worker.

—*Monson State Hospital, Palmer.*—The Monson Anniversary number of the bulletin of the Massachusetts Commission on Mental Diseases has just been published. This contains papers which were read at the meeting held at this hospital to celebrate the 20th anniversary of the work it has done. It also contains reproductions of quite a large number of placards which were used at this meeting, and it has a good number of reproductions of photographs showing the buildings and the work of the institution.

The average number of patients at this institution has been formerly in the neighborhood of 1200, although during the past year the number has fallen. Nearly 200 of the patients have been away from the hospital capable of doing satisfactory work, but now that the war stress for labor is lessening, these patients are gradually returning, as they cannot maintain themselves continuously. More have worked during this last year than at any other time in the history of the institution. This has decreased the amount of work done at the institution because the best workers have been absent.

The shortage on the medical staff still continues, although one member has already returned, and of the four others absent there is a fair prospect that two will return within a few months. The shortage of attendants has largely decreased now in the male wards, but in the female wards the shortage continues. The out-patient work has been kept up though considerably diminished during the war period.

There is at present no plan to increase the capacity of the institution until matters are much more settled than they are now.

MICHIGAN.—*Kalamazoo State Hospital, Kalamazoo.*—A bill has been introduced, at the request of the State Hospital, and is now pending in the Michigan Legislature, the object of which is to permit state hospitals in Michigan to conduct out-clinics and to provide future care and supervision of patients discharged from the institution. As reported in previous communications from this institution, the Kalamazoo State Hospital is already conducting out-clinics on its own initiative, at the request and expense of various counties in its district.

The object of the bill is to enable it to extend work of this kind and also to add to the service, after-care.

The legislature is also being asked for a new cottage for men at the Colony Farm, for a refrigerating and ice making plant, for enlargements of stock barns, and for improved and increased water supply.

The hospital has secured an affiliation with the Western State Normal whereby its pupils in the department of physical culture, in groups of five or ten can give instruction in physical culture to the hospital patients. This arrangement is working both to the advantage of the State Normal and the hospital.

Expansion of the department of occupational therapy is steadily and constantly taking place. Nothing in the line of therapy that has not already been mentioned in previous issues of the JOURNAL has been established.

NEW YORK.—The State Hospitals Commission has recommended the construction of a new psychopathic hospital in New York City for preliminary treatment and research. It is greatly needed. It is also urged that the Creedmoor Branch of the Brooklyn State Hospital be enlarged.

During the Fall the Women's Council of Defence co-operated with the commission in an effort to secure 1000 nurses for state hospital service. A three-year course in training is given, leading to a registered nurse's certificate.

—*Binghamton State Hospital, Binghamton.*—The acute hospital, Fairmount, which was closed last August on account of the shortage of help, was re-opened March 1. Of the sixty-two employees and six physicians who left the hospital to enter the federal military service, three physicians and thirteen employees have returned to duty. Besides these former employees, seventeen new men from the army and the navy have been employed at the hospital during the past six months.

The situation as regards the shortage of employees has been considerably relieved during the past two months. This relief is probably due in large measure to extensive advertising in nearby cities and towns through the medium of newspapers. At the present time but fifteen employees are lacking in all departments of the institution.

A bill which is now before the legislature, if it becomes a law, will increase the wages of employees in all grades of the state hospital service.

During February, Dr. Herman E. Hasseltine, Assistant Surgeon General of the U. S. Public Health Service, and Drs. Gibbs, Welden and Anthony, also of the U. S. Public Health Service, visited the hospital and inoculated approximately 50 per cent of the patients in the hospital with a vaccine designed to prevent the development of pneumonia. Careful record is being kept of these patients, apart from the general hospital records, to determine if possible the value of the vaccine.

Plans and specifications covering an addition to the laboratory building, also plans and specifications for extension to dormitory, scullery and equipment to the East building have been received from the state architect

and approved by the board of managers of the hospital. It is expected that construction work on these additions will be commenced in the early spring.

Mr. William H. Hecox and Mr. J. Arnot Rathbone, members of the board of managers of the hospital, entered the federal service during the past six months. Mr. Rathbone has returned to his home in Elmira, N. Y., and Mr. Hecox expects to receive his discharge April 1.

On December 1, 1918, Miss Edith Atkin, R. N., principal of our school of nursing, resigned to accept the superintendency of the Binghamton City Hospital. This vacancy has been filled by the appointment of Miss Susan L. Carpenter, R. N., of Middletown, Conn. Miss Carpenter assumed the duties of principal January 2, 1919.

—*Craig Colony for Epileptics, Sonyea.*—During the influenza epidemic which existed in October and November, 1918, over 1000 cases developed at the colony, 900 among patients and 100 among employees, 138 patients and five employees succumbed to the disease. In the neighboring village of Mt. Morris, four miles distant, as well as at the colony, there was apparently a virulent type of infection which would explain the high death rate. The vast majority of patients who died were of the type considerably deteriorated both physically and mentally.

Work has been begun on the erection of Oneida, the new dining room and kitchen building in the West Group for males. This building will have space in the dining room for 350 patients and a separate dining room for employees working in the division in which the building is located.

—*Gowanda State Homeopathic Hospital, Gowanda.*—A feed water heater has been installed at the power house and will soon be in operation.

Eight new colony houses have been constructed at the poultry range to accommodate the spring hatch of chickens.

A portion of one of the large day rooms on Ward 17 has been converted into a marking room and the clothing clerk is in charge of all clothing and personal property received for men and women patients.

—*Kings Park State Hospital, Kings Park, Long Island.*—A new Employees' Home has been constructed and it is expected that it soon will be opened. The home is now heated, lighted, and, when a few minor construction details are completed, will be accepted by the state, and turned over to the proper authorities. Nearly all the furniture and equipment are on the grounds and ready to be placed in the home as soon as it is accepted. The home is of fireproof construction throughout, with reinforced concrete floors, beams, and columns. The partitions between the rooms are Ebsary fireproof blocks. Burkhardt's system of reinforcement was used in the construction of the building.

A new chlorinating apparatus has been installed at the sewage disposal plant, and an addition has been built to the filtration beds. An appropri-

tion of \$12,000 has been asked of the next legislature, to build an additional settling tank.

An authorization of \$150,000 has been made by the legislature for additional construction to the Tuberculous Group, of which \$75,000 is available. Also an appropriation of \$19,000 for constructing a kitchen for the Tuberculous Group.

An authorization of \$35,000 was made for a new water storage reservoir, of which \$10,000 is available. The present legislature has been asked to make \$25,000 more available.

An appropriation was made for reconstruction of the elevators. Material has been ordered and is being received for the purpose of reconstructing two elevators—one at C-D Kitchen, and one at Group 1 Kitchen, where the elevators are now in a poor condition.

The hospital was awarded first prize at the meeting of the American Medico-Psychological Association, held in Chicago on June 4, 1918, for embroidery, reed and raffia work.

At the request of Dr. Charles B. Davenport, Director of the Eugenics Record Office, Cold Spring Harbor, Long Island, Dr. William C. Garvin gave a clinic to twelve of his students on the morning of July 16, 1918, after which the class made a tour of the hospital under the guidance of a number of our physicians.

A clinic was given by Dr. William C. Garvin, to the students in psychology of Professor Hollingworth, of Barnard College, Columbia University, on the morning of August 6, 1918, following which the party was shown through the buildings and grounds by a number of our physicians.

The entire hospital population is being inoculated with typhoid paratyphoid vaccine in order to prevent any outbreaks of this disease.

Dr. Edward Francis, of the U. S. Public Health Service, and several assistants inoculated one-half of the patients on each of the wards of the hospital with pneumococcic vaccine, types 1, 2 and 3. By this method it is hoped that its prophylactic value against pneumonia will be determined.

At the present time the following physicians of the staff are in the Medical Corps of the U. S. Army:

Major A. J. Rosanoff,
Captain Walter H. Sanford,
Captain Harry A. Steckel,
First Lieutenant Charles H. Brush,
First Lieutenant John V. Swierat.

—*Manhattan State Hospital, Ward's Island.*—Influenza first developed in the hospital October 4, 1918, the first case occurring in the Nurses' Home. The epidemic lasted until the middle of January, during which period 165 cases occurred among the patients, 29 of whom developed pneumonia; 53 of the total number died.

Thirty-two employees developed influenza, 12 cases being complicated by pneumonia; three deaths occurred among the employees.

Eight hundred and six patients were vaccinated against the disease, 16 of whom later contracted influenza.

The epidemic was at first confined to two buildings for chronic female cases. Subsequently, however, numerous cases developed throughout the various hospital services.

The high death rate may in part be explained by the virulency of the disease and the fact that the medical service was depleted nearly 50 per cent by the absence of those in military service. The ward service was also greatly reduced owing to conditions of war and the absence from duty of those who were sick with the disease.

Never before have so many patients, male and female, been employed as at the present time, both on the ward services and out of doors. Many have been trusted with keys and in no instance have they violated the privilege extended to them, seeming to realize the existing exigency, due to the shortage of help, doing all in their power to assist; with benefit to themselves as well as the institution.

Many of the older hospital buildings have been repaired, new floors laid and interiors painted. A detached building containing Wards 11 and 12, has been thoroughly renovated and will be equipped for the special treatment and care of female neurological cases.

A large number of working patients have filled in and done considerable grading about the hospital grounds. Streets have been repaired and new ones laid; for the most part being paralleled with cement sidewalks, many new walks having recently been built.

Modern attractive electric street lamps have been placed at frequent intervals; streets and avenues have been named and appropriate signs placed on the lamp-posts at street intersections.

As an aid to centralization of administration, several of the outside departments have been grouped together under a less number of respective heads.

The work on the Naval Hospital has been greatly deferred owing to frequent strikes; the buildings, however, are now being rapidly completed and it is believed will be occupied within the near future.

On February 18 a disturbed patient was admitted to the hospital who upon examination was found to have diphtheria. Shortly after, on another ward of the Reception Hospital another patient was admitted who had had diphtheria and was a carrier. As a result of these exposures, several clinical cases of diphtheria developed and by cultures it was found that a large number of patients had become carriers; a total of 65. The building was quarantined, as a result of which the epidemic was confined entirely to this one building, as no cases occurred in other parts of the hospital from this source.

—*Middletown State Homeopathic Hospital, Middletown.*—The tuberculosis pavilion, which has been under construction for 40 patients, was equipped with temporary lines for furnishing heat and water, and occupied on December 27, 1918.

A broad veranda, inclosed in glass, faces southeast, and is the principal day room. Behind it in one wing is an infirmary for 25 patients, a small day room in the center, and in the other wing some single rooms, a small infirmary, and bath and toilet facilities. The dining room and kitchen are behind the day room.

The building has only temporary equipment, but is found light and airy, and the plan thus far is satisfactory, except for additional toilet facilities in connection with the large infirmary, which are imperative.

—*St. Lawrence State Hospital, Ogdensburg.*—A farm horse barn to accommodate 27 horses has been erected nearby the dairy barn. The present stable will be made over into a granary for the storage of farm crops and dairy feed.

The work of rewiring the Central Group is in progress. This is being done from year to year as the legislature provides funds. During the last two sessions \$1500 has been appropriated at each session.

During the months of October and November, 1918, occurred a severe epidemic of influenza, a total of 757 cases (patients and employees) contracting the disease. Of this number 246 developed pneumonia and 61 died (56 patients and 5 employees). The hospital was under a strict quarantine which was not lifted until November 20.

On December 19, 1918, a transfer of 27 female patients was received from the Manhattan State Hospital.

The total subscription to the Fourth Liberty Loan from the officers and employees of this hospital on October 19, 1918, was \$18,500.

November 15 and 16, 1918, the total subscription from officers and employees to the United War Work Campaign was \$630.25.

—*Utica State Hospital, Utica.*—Influenza held sway in the institution from October 10 until the middle of November. In all there were 372 cases among the patients, divided about equally as to sex. Thirty-five deaths results from the disease and its complications. Of the employees and officers 112 contracted the malady. There were two deaths among the nurses—one man and one woman. During the days of the most serious shortage in the nursing force, assistance was asked of the Red Cross and several volunteer workers were sent to the hospital. The institution was quarantined and no visiting was allowed from October 8 to November 19. Chapel service and entertainments were suspended.

On the afternoon of October 4 the annual field sports were held. Despite a date so late in the season, the weather was warm and pleasant and the exercises especially successful. They had been postponed for several weeks on account of unpropitious weather.

The annual Christmas entertainment, consisting of musical numbers and motion pictures, was held on the evening of December 24. Practically every patient in the institution was provided with Christmas presents, letters having been sent to correspondents and relatives several weeks before.

Such patients as had no gifts from home or were without relatives were remembered through the generosity of the board of managers and other thoughtful friends of the hospital, who contributed donations.

A complete and thoroughly modern building for a laboratory and mortuary is soon to be erected. The appropriation is \$35,000. It will be a brick building of fireproof construction, 40 x 60 feet, two stories in height, consisting of receiving room and cold vaults, autopsy and lecture room, library and museum, photographic department, chapel and several laboratory rooms.

At a cost of \$126,000 contracts have been let for remodeling the power house and boiler plant. There will be installed four 400-horsepower boilers of the water-tube type.

Dr. H. L. Palmer, who has been superintendent of the hospital since October 25, 1899, and who had served at the hospital since January 26, 1893, has tendered his resignation to take effect April 1, 1919. At a meeting of the board of managers held March 17, 1919, the members collectively and individually gave expression to their regret at Dr. Palmer's departure, and to the warm feeling of friendship held by them for Dr. and Mrs. Palmer.

—*Willard State Hospital, Willard.*—Influenza broke out at the hospital October 16, and from that time until the epidemic subsided about the end of December, 486 patients out of a total of 2400, and 177 officers and employees were ill with it. Pneumonia developed in 121 patients and 11 employees. Ninety patients and two employees died.

Out of a total of 127 places for women, and 131 for men nurses and attendants engaged in ward service, there have been 33 vacancies for women and 52 for men. Twenty-six men were absent on military service, five of whom have returned. Applications for work are now being received from men who have been discharged from the army and others from munition factories, but as yet no applications are being received from women.

A new greenhouse, with concrete walls and beds, has been constructed in the garden for propagating vegetables. New roofs have been put on the kitchens and boiler-houses at Sunnycroft and Edgemere. A contract has been awarded for new tile floors for the dining rooms at The Pines.

The budget for the coming year, which has recently been introduced in the legislature, contains an item of \$35,000, with \$20,000 immediately available, for the construction of a tuberculosis hospital for men, to accommodate 45 patients.

NORTH CAROLINA.—*State Hospital at Goldsboro.*—There has been constructed in the last two years a steel tower with two tanks of 115,000-gallon capacity, a cannery 36 x 40 feet, equipped with all necessary conveniences. An addition has been made to the kitchen, and a room built for preparing vegetables.

There is now under construction a building for the accommodation of 90 patients, and a new system of pipe lines for supplying the above, and other buildings to be erected, with water and heat.

OHIO.—Steps are being taken to form a state society for mental hygiene to co-operate with the national organization. Drs. Erl Baber, Emerson A. North, and Ora O. Fordyce, form a committee in charge of the movement.

—*Longview Hospital, Cincinnati.*—The report of the directors of this hospital for the triennial period ending November 15, 1918, contains an account of, and reports upon, the investigation ordered by Judge A. K. Nippert of the physical condition of every patient in the hospital. This was conducted by 76 physicians and 22 nurses summoned by the judge, and despite popular feeling in the matter these reports were not made public by the court. The Academy of Medicine of Cincinnati appointed a committee to investigate conditions and suggest more scientific treatment. Their recommendations are given and the management was held guiltless of any wrongdoing. Among the former, the impossibility of securing proper medical service at the inadequate recompense paid the hospital physicians was emphasized.

PENNSYLVANIA.—A state commission has purchased land in the neighborhood of Selinsgrove for the erection of a new \$1,000,000 hospital.

—*Friends Hospital, Frankford, Philadelphia.*—By the will of Margaret H. Jones this hospital will receive a sum sufficient for the erection of a memorial cottage.

SOUTH CAROLINA.—*State Hospital for the Insane, Columbia.*—The hospital has continued to be conducted along the lines indicated in the "Half-Yearly Summary," which appeared some months ago in the JOURNAL.

Progress has been made in remodeling the old wards of the white female department, though the work has been greatly handicapped on account of the difficulty in securing building material and sufficient help. The seventh, eighth, ninth, and tenth wards were finished and occupied September 25, 1918. The wards all conform to a definite plan, which has been carefully studied, the object being to supply the patients with accommodations that are best suited for their care. It is difficult for one not familiar with the situation to appreciate the striking comparison between the new and the old. The new, clean and attractive wards at once appeal to the patients, and not infrequently a careless, untidy patient, stimulated by his improved environment, will show marked improvement. Within a short time wards four, five, six and twelve will be ready for occupancy, and work of remodeling the remaining wards of the white female department is now well advanced.

Since the work of remodeling has begun, nothing has been accomplished that supplies a greater need to the hospital than the building of a tubercular cottage, which was occupied on September 15. The building is located in the northern part of the grounds, being about two hundred yards from the

nearest building. It is a one-story, frame building, one hundred and sixty feet long, and twenty-six feet wide. It is divided into two compartments or wards, one for female and the other for male patients. Each ward will accommodate, without crowding, twenty-five patients. The building is especially designed to meet the cardinal requirements of caring for tubercular patients, which are supplying them with an abundance of fresh air and sunshine.

The medical work has been conducted with the same clinical standards outlined in former reports, with the essential point of view that the mentally sick patient is one to be studied and treated as an individual rather than one who merely belongs to a certain disease category requiring only custodial care. Continuous baths and packs have been resorted to for excitement. All mechanical restraint has been abolished and seclusion reduced to the minimum. The continuation of suitable occupation and amusement for patients has demanded much time and thought.

Probably one of the most beneficial changes that have occurred in the medical department during the past year, was the placing of graduate female nurses in charge of six of the white male wards. There is much to speak for the character of their work, both in caring for the patients and the manner in which they have kept the wards.

WISCONSIN.—*Central State Hospital for the Insane, Waupun.*—This hospital is overcrowded, and the legislature has been asked for an appropriation of \$100,000 to erect two new hospital wings.

CANADA.—A new military hospital for mental cases is to be established at London, Ontario. An administrative and six ward buildings are to be erected.

Appointments, Resignations, Etc.

- ALLEN, DR. HENRY, appointed Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., February 1, 1919.
- ATKINS, DR. HENRY SKILLMORE, formerly Superintendent of St. Louis Asylum for the Insane, at St. Louis, Mo., died in St. Luke's Hospital, St. Louis, December 25, 1918, aged 51.
- AUBRY, DR. WALLACE J. C., Medical Interne at Manhattan State Hospital at Ward's Island, N. Y., promoted to Assistant Physician November 1, 1918.
- BABER, DR. ARMITAGE, Superintendent of Dayton State Hospital at Dayton, Ohio, granted an indefinite leave of absence.
- BAKER, DR. JANE ROGERS, formerly Superintendent of Chester County Hospital for the Insane at Embreeville, Pa., died at her home in Chester, Pa., October 23, 1918, from typhoid fever, aged 51.
- BARTRAM, DR. NELL W., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned February 15, 1919, to go to Servia with the American Red Cross.
- BECKER, DR. DEFOREST, Dental Interne at Manhattan State Hospital at Ward's Island, N. Y., resigned October 30, 1918.
- BEEMER, DR. NELSON H., Superintendent of Mimico Hospital for the Insane at Toronto, Ontario, elected Vice-President of the Aesculapian Club of Toronto.
- BENTLEY, DR. INEZ, Woman Physician at Kings Park State Hospital at Kings Park, N. Y., left October 21, 1918, for service with the American Committee for Devastated France.
- BENTON, DR. GEORGE H., appointed Medical Interne at St. Elizabeth's Hospital at Washington, D. C., December 20, 1918.
- BERRY, DR. WALTER D., appointed Assistant Superintendent of Gardner State Colony, at East Gardner, Mass., and assumed his duties December 20, 1918.
- BLACKBURN, DR. ELLA, Assistant Physician at Kenilworth Sanitarium at Kenilworth, Ill., resigned.
- BLAISDELL, DR. RUSSELL, Senior Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., promoted to First Assistant Physician, August 1, 1918.
- BOGDONOFF, SAMUEL, D. D. S., appointed Dental Interne at St. Elizabeth's Hospital at Washington, D. C., February 14, 1919.
- BOONE, DR. J. E., Interne at State Hospital for the Insane at Columbia, S. C., promoted to Assistant Physician, July 1, 1918.
- BOULDEN, DR. GEORGE P., Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., resigned October 30, 1918.
- BROWN, DR. JOHN F., appointed Superintendent of Central State Hospital at Waupun, Wis.
- BROWN, DR. LOUIS R., Assistant Physician at Connecticut Hospital for the Insane at Middletown, appointed First Assistant Physician at New Jersey State Hospital at Trenton, December 4, 1918.
- BRUSH, DR. NATHANIEL HAWLEY, formerly Assistant Physician at Henry Phipps Psychiatric Clinic at Baltimore, Md., and recently Captain, M. C., U. S. A., has been ordered from Fort Oglethorpe, Ga., to Debarkation Hospital No. 51, National Soldiers' Home, Va.
- BUSHONG, DR. R. E., Assistant Superintendent of Athens State Hospital at Athens, Ohio, appointed Acting Superintendent of Dayton State Hospital at Dayton, Ohio.
- CAMPBELL, DR. GEORGE B., First Assistant Physician at Utica State Hospital at Utica, N. Y., and recently Major, M. C., U. S. A., on overseas duty, has returned to Utica.

- CHANDLER, DR. HENRY M., appointed Assistant Physician at Connecticut Hospital for the Insane at Middletown, October 13, 1918.
- CHANDLER, DR. JENNIE S., appointed Assistant Physician at Connecticut Hospital for the Insane at Middletown, October 23, 1918.
- COFFIN, DR. HARRIET F., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned December 9, 1918.
- COON, CAPTAIN GEORGE B., M. C., U. S. A., appointed Assistant Physician at State Hospital for Mental Diseases at Howard, R. I.
- COVEY, DR. CLYDE V., Assistant Physician at State Hospital for Mental Diseases at Howard, R. I., commissioned Lieutenant, M. C., U. S. A., and is on duty at Camp Meade.
- CRANZ, DR. ALVAN H., formerly of Public Health Service, appointed Assistant Physician at Connecticut Hospital for the Insane at Middletown, January 3, 1919.
- DEWEY, DR. RICHARD, Physician in Charge of the Milwaukee Sanitarium at Wauwatosa, Wis., has become Medical Director of the same.
- DIAMOND, DR. BERT B., Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., resigned February 28, 1919.
- DOMINGO, DR. E., appointed Medical Interne at St. Elizabeth's Hospital at Washington, D. C., October 5, 1918, and resigned November 18, 1918.
- DURSCHMIDT, DR. ELIZABETH WELLS, Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned September 1, 1918.
- DUVAL, DR. LEON E., Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., promoted to Senior Assistant Physician, December 1, 1918.
- EASTON, DR. FLORA ESTELLA PARKER, for eight years Assistant Physician at State Hospital for the Insane at Norristown, Pa., died in the institution, October 25, 1918, from pneumonia following influenza, aged 46.
- ENGELIUS, DR. A. E., Assistant Physician at Craig Colony for Epileptics at Sonyea, N. Y., resigned December 31, 1918.
- EVANS, DR. EDWARD E., formerly Assistant Superintendent of State Hospital Number 1 at Fulton, Mo., died at Memorial Hospital at Rosedale, Kan., December 12, 1918, from pernicious anemia, aged 50.
- EVARTS, DR. ABRAHAM B., Senior Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., resigned October 31, 1918.
- EYMAN, DR. HENRY C., Superintendent of Massillon State Hospital at Massillon, Ohio, for thirty-four years, resigned.
- FERRIS, DR. GEORGE NEWTON, from 1881 to 1889 Superintendent of Kings County State Hospital at Brooklyn, N. Y., died at the home of his sister in Brooklyn, January 28, 1919, from heart disease, aged 64.
- FINKLE, DR. BEVERLY A., Assistant Superintendent of Norfolk Hospital for the Insane at Norfolk, Neb., appointed Superintendent of State Orthopedic Hospital at Lincoln, Neb.
- FOULKES, DR. SARA E., appointed Medical Interne at Kings Park State Hospital at Kings Park, N. Y., January 7, 1919, and resigned February 5, 1919, to go to Serbia with the American Red Cross.
- FRANZ, DR. CHARLES H., formerly Assistant Superintendent of the Elgin State Hospital at Elgin, Ill., and recently in private practice in Aurora, has removed to San Francisco, Cal., where he is Assistant Surgeon in the United States Public Health Service.
- FRY, DR. CHAUNCEY B., Dental Interne at Binghamton State Hospital at Binghamton, N. Y., returned from military service March 3, 1919.
- FURMAN, DR. ISAAC J., Senior Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned November 23, 1918.
- GANNON, DR. CHARLES H., Assistant Physician at State Hospital for Mental Diseases at Howard, R. I., commissioned Lieutenant, M. C., U. S. A., and is stationed at U. S. Hospital No. 34, East Norfolk, Mass.
- GARVIN, DR. WILLIAM C., Senior Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., appointed Superintendent of Kings Park State Hospital at Kings Park, N. Y., August 1, 1918.

- GIBSON, DR. EDWARD T., Clinical Director and Pathologist at Connecticut Hospital for the Insane at Middletown, granted leave of absence October 26, 1918, commissioned First Lieutenant, M. C., U. S. A., and has been on duty at Plattsburg Barracks.
- GIBSON, DR. SAMUEL CARROLL, Superintendent of Nevada Hospital for Mental Diseases at Reno from 1904 to 1911, died in San Francisco, March 11, 1919.
- GILL, DR. GEORGE GUYER, First Assistant Physician at State Hospital for Criminal Insane at Fairview, Pa., died at his home, November 4, 1918, from pneumonia, following influenza, aged 35.
- GILLETTE, DR. PHILIP F., formerly Assistant Physician at Elgin State Hospital at Elgin, Ill., reappointed.
- GLASCOCK, DR. ALFRED, formerly Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., and recently Captain, M. C., U. S. A., died at a base hospital in France, where he was serving as psychiatrist, October 10, 1918, from pneumonia, aged 37.
- GLISMANN, DR. MARVIN B., Medical Intern at St. Lawrence State Hospital at Ogdensburg, N. Y., commissioned Junior Lieutenant, Second Grade, U. S. N., October 8, 1918.
- GLUECK, DR. BERNARD, formerly Alienist at New York State Prison at Sing Sing, and recently Captain, M. C., U. S. A., has been discharged.
- GORRILL, DR. GEORGE WESLEY, Superintendent of Buffalo State Hospital at Buffalo, N. Y., died at his home, October 27, 1918, from pneumonia following influenza, aged 41.
- GRAU, DR. LEROY C., SR., Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., resigned January 21, 1919.
- GROVER, DR. MILTON M., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., promoted to Senior Assistant Physician, June 22, 1918.
- GUNDRY, DR. ALFRED T., Medical Director of the Gundry Sanitarium at Catonsville, Md., elected Secretary-Treasurer of the Baltimore County Medical Association.
- HARALSON, DR. GUY CHAILLE, formerly Assistant Physician at East Mississippi Insane Hospital at Meridian, and recently Lieutenant, M. C., U. S. A., died at Fort McPherson, Ga., October 24, 1918, from pneumonia, aged 36.
- HEYEN, DR. JOHN P., Member of the Board of Managers of Kings Park State Hospital at Kings Park, N. Y., died October 30, 1918.
- HORNER, DR. BLANCHE, Assistant Physician at Rochester State Hospital at Rochester, Minn., appointed Assistant Physician at Kenilworth Sanitarium at Kenilworth, Ill.
- HUTCHINGS, DR. RICHARD H., formerly Superintendent of St. Lawrence State Hospital at Ogdensburg, N. Y., and recently Major, M. C., U. S. A., returned to his former position February 7, 1919, and was transferred to Utica State Hospital April 1, 1919.
- HYDE, DR. ARTHUR G., Superintendent of Cleveland State Hospital at Cleveland, Ohio, transferred to Massillon State Hospital.
- ISHIDA, DR. NOBORU, Professor of Psychiatry in the University of Nagasaki, Japan, who shot and killed Dr. George B. Wolff, was sentenced to imprisonment for life in the Maryland Penitentiary.
- JACOBS, ADOLPH, D. D. S., Resident Dentist at St. Elizabeth's Hospital at Washington, D. C., resigned January 31, 1919.
- JAMISON, DR. EMILIE, appointed Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., December 20, 1918.
- JELLIFFE, DR. SMITH ELY, Visiting Neurologist to the City Hospital at Blackwell's Island, N. Y., has retired from the editorship of the New York Medical Journal.
- KENYON, DR. H. M., Assistant Physician at Binghamton State Hospital at Binghamton, N. Y., left for military service October 31, 1918, and returned January 2, 1919.
- KLEINERT, MR. ALBERT E., of Board of Managers of Kings Park State Hospital at Kings Park, N. Y., appointed Deputy Tenement House Commissioner of the Borough of Brooklyn, New York.

- KOENIG, DR. CHARLES, Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., resigned October 10, 1918.
- KRADWELL, DR. WILLIAM THEODORE, formerly Assistant Physician at the Milwaukee Sanitarium at Wauwatosa, Wis., and recently Captain, M. C., U. S. A., appointed Assistant Superintendent at the Milwaukee Sanitarium.
- LANDES, DR. BERTRAM HUGHEY, Assistant Physician at Northern Indiana Hospital for the Insane at Logansport, died January 13, 1919, from pneumonia following influenza, aged 32.
- LEBRET, DR. GIRARD HENRY, formerly Assistant Physician at Essex County Hospital for the Insane at Cedar Grove, N. J., and recently Lieutenant, M. C., U. S. A., died at his home in Montclair, N. J., October 17, 1918, from pneumonia following influenza, aged 32.
- LEHRMAN, DR. RAPHAEL, Medical Interne at St. Lawrence State Hospital at Ogdensburg, N. Y., promoted to Assistant Physician, December 4, 1918, and resigned December 17, 1918.
- LEWIS, DR. NOLAN D. C., formerly Pathologist at Crownsville State Hospital at Crownsville, Md., and recently Lieutenant, M. C., U. S. A., appointed Pathologist at St. Elizabeth's Hospital at Washington, D. C.
- LISOR, DR. GRAHAM M., formerly Assistant Physician at Elgin State Hospital at Elgin, Ill., appointed Superintendent of St. James Hospital and Sanitarium at St. James, Minn.
- LORD, DR. FRANK H., Assistant Physician at Oxford Retreat at Oxford, Ohio, resigned to take charge of a sanitarium near Dayton, Ohio.
- MC AUSLAN, DR. JAMES L., Assistant Physician at Gardner State Colony at East Gardner, Mass., discharged from army service and returned to duty January 1, 1919.
- MCCAFFERTY, DR. GEORGE W., Superintendent of Somerset Hospital for the Insane at Somerset, Pa., died at the Windher Hospital at Windher, Pa., December 13, 1918, following an operation for appendicitis, aged 48.
- MCELROY, DR. H. A., Assistant Physician at State Hospital for the Insane at Columbia, S. C., promoted to Resident Physician at State Park of the Hospital, December 13, 1918.
- MORELL, MR. J. B., of Centerport, Long Island, appointed to Board of Managers of Kings Park State Hospital at Kings Park, N. Y., by Governor Charles S. Whitman, November 26, 1918, and reappointed by Governor Alfred E. Smith, January 23, 1919.
- MUNNERLYN, DR. J. F., Senior Assistant Physician at State Hospital for the Insane at Columbia, S. C., promoted to Medical Director, August 15, 1918.
- MUNSON, DR. JAMES FREDERICK, formerly Pathologist at Craig Colony for Epileptics at Sonyea, N. Y., and recently Captain, M. C., U. S. A., died at Plattsburg, N. Y., October 25, 1918, from influenza, aged 37.
- NEWELL, DR. N. H., Assistant Superintendent of Nebraska Hospital for the Insane at Lincoln, resigned.
- NEYMANN, DR. CLARENCE A., formerly Assistant Physician at Henry Phipps Psychiatric Clinic at Baltimore, Md., and recently Lieutenant, M. C., U. S. A., appointed Superintendent of Cook County Psychopathic Hospital at Chicago, Ill.
- OLIVER, DR. JOHN RATHBONE, formerly Assistant Physician at Henry Phipps Psychiatric Clinic at Baltimore, Md., appointed Psychiatrist to the criminal courts of Baltimore.
- PALMER, DR. HAROLD L., Superintendent of Utica Hospital at Utica, N. Y., resigned April 1, 1919.
- PARKER, DR. CHARLES S., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., promoted to Senior Assistant Physician, June 22, 1918.
- PATON, DR. STEWART, formerly Director of the Laboratory at the Sheppard and Enoch Pratt Hospital at Towson, Md., and recently Major, M. C., U. S. A., has been discharged.
- PAYNE, DR. GUY, Superintendent of Essex County Hospital for the Insane at Cedar Grove, N. J., granted leave of absence for military service until December 31, 1918.

- PECK, DR. MARTIN W., formerly Assistant Physician at Devereux Mansion at Gloucester, Mass., and recently Lieutenant, M. C., U. S. A., appointed Assistant Physician at Sheppard and Enoch Pratt Hospital at Towson, Md.
- PETERY, DR. ARTHUR KRAFT, Assistant Physician at the State Hospital for the Insane at Norristown, Pa., died at the hospital, October 2, 1918, from pneumonia following influenza, aged 32.
- PETTITJOHN, DR. ABRA C., formerly Superintendent of Eastern Oklahoma Hospital for the Insane at Vinita, appointed Resident Physician at Dr. C. R. Woodson's Sanitarium at St. Joseph, Mo.
- PICKENS, DR. EDGAR A., appointed Assistant Physician at Nebraska Hospital for the Insane at Lincoln.
- PIERSON, DR. HELENA B., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned December 20, 1918.
- PILGRIM, DR. CHARLES W., Chairman of New York State Hospitals Commission, has been elected Chairman of the Section on Mental Hygiene and Medical Advice of the State Conference of Charities and Corrections.
- PLAMONDON, DR. JAMES D., Assistant Physician at State Insane Asylum at Salem, Oregon, appointed Superintendent of Eastern Oregon State Hospital at Pendleton.
- PRIESTMAN, DR. GORDON, Senior Assistant Physician at Willard State Hospital at Willard, N. Y., absent on military duty.
- PRINGLE, DR. FRED A., appointed Assistant Physician at Essex County Hospital for the Insane at Cedar Grove, N. J.
- PRITCHARD, DR. J. A., appointed Senior Assistant Physician at Binghamton State Hospital at Binghamton, N. Y., October 31, 1918.
- PUTNAM, DR. JAMES J., Consulting Neurologist to Massachusetts General Hospital at Boston, Mass., died at his home in Boston, Mass., November 4, 1918, from heart disease, aged 72.
- RAYMOND, DR. HERMAN L., formerly Assistant Physician at Gowanda State Homeopathic Hospital at Collins, N. Y., and recently Captain, M. C., U. S. A., resumed his hospital position December 16, 1919.
- REXFORD, DR. HOMER I., Medical Interne at Willard State Hospital at Willard, N. Y., absent on military duty.
- RILEY, DR. CHARLES HENRY, President of the Board of Trustees of the Sheppard and Enoch Pratt Hospital at Towson, Md., died January 23, 1919, at his home from kidney disease, aged 62.
- ROMERS, DR. HENRY W., appointed Medical Interne at Kings Park State Hospital at Kings Park, N. Y., February 18, 1919.
- ROWE, DR. HENRY, JR., appointed Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., June 20, 1918, and resigned September 20, 1918.
- SALMON, COL. THOMAS W., Senior Consultant in Neuro-Psychiatry for the A. E. F., has returned for duty in the Surgeon-General's Office in Washington, D. C.
- SANFORD, DR. LESTER E., Assistant Physician at Binghamton State Hospital at Binghamton, N. Y., returned from military service March 10, 1919, having left the hospital May, 1918.
- SCANLAND, DR. JOHN M., Superintendent of State Hospital for the Insane at Warm Springs, Mont., commissioned Captain, M. C., U. S. A.
- SCHERTZ, DR. MILDRED S., Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., promoted to Senior Assistant Physician, November 1, 1918.
- SHUFFLETON, DR. JOSEPH H., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., promoted to Senior Assistant Physician, June 22, 1918.
- SLAGLE, MRS. ELEANOR CLARKE, General Superintendent of Occupations of the Illinois State Hospitals, appointed Supervisor of Aides in Occupational Therapy in the Medical Department, U. S. A.
- SLEYSTER, DR. L. ROCK, Superintendent of Central State Hospital for the Insane at Waupun, Wis., appointed Physician in Charge of the Milwaukee Sanitarium at Wauwatosa, Wis.
- SOBEL, DR. NATHAN, Medical Interne at Kings Park State Hospital at Kings Park, N. Y., resigned, September 30, 1918.

- SOMERS, DR. ELBERT, formerly Superintendent of Long Island State Hospital at Brooklyn, N. Y., appointed Superintendent of a Red Cross Hospital in France.
- SPEAR, DR. GEORGE E., Assistant Physician at Nebraska State Hospital at Ingleside, was shot by a nurse, November 11, 1918, and died the following day, aged 45.
- SPEERER, DR. IRVING, appointed Dental Interne at Manhattan State Hospital at Ward's Island, N. Y., December 1, 1918.
- SPRADLEY, DR. J. BRUTUS, Medical Interne at Binghamton State Hospital at Binghamton, N. Y., resigned December 20, 1918, to enter a general hospital in Rome, N. Y.
- SPRADLING, DR. RICHARD H., Assistant Physician at Nebraska Hospital for the Insane at Lincoln, promoted to Assistant Superintendent.
- STARX, DR. CLINTON E., Trustee of Norwich State Hospital at Norwich, Conn., since its institution, died at his home in Norwich, September 27, 1918, from pneumonia following influenza, aged 64.
- STICK, DR. H. LOUIS, formerly Superintendent of Hospital Cottages for Children at Baldwinville, Mass., and now Captain, M. C., U. S. A., has been ordered to Plattsburg Barracks.
- STOUGH, DR. DOWLING B., Medical Interne at Binghamton State Hospital at Binghamton, N. Y., resigned March 1, 1919, to reside in Arkansas.
- SZETO, DR. HENRY C., Medical Interne at Manhattan State Hospital at Ward's Island, N. Y., promoted to Assistant Physician November 1, 1918.
- SZWAJKART, DR. ADAM, Superintendent of Cook County Psychopathic Hospital at Chicago, Ill., resigned.
- TADDIKEN, DR. PAUL G., Acting Superintendent of St. Lawrence State Hospital at Ogdensburg, N. Y., appointed Superintendent of Buffalo State Hospital at Buffalo, N. Y., January 26, 1919.
- VERMILYEA, DR. SIDNEY CHARLES, formerly Assistant Physician at Hudson River State Hospital at Poughkeepsie, N. Y., and recently Lieutenant, M. C., U. S. A., died in service.
- VESSIE, DR. PERCY R., Senior Assistant Physician at Gowanda State Homeopathic Hospital at Collins, N. Y., resigned to enter private practice in Gowanda.
- WALLS, H. ERNEST, D. D. S., appointed Dental Interne at St. Elizabeth's Hospital at Washington, D. C., February 14, 1919, and resigned February 18, 1919.
- WASSON, DR. WATSON LOVELL, Superintendent of Vermont State Hospital for the Insane at Waterbury, and Professor of Psychiatry in the University of Vermont, died November 24, 1918, from pneumonia, aged 44.
- WHEELER, MISS ANN W., appointed to Board of Managers of Kings Park State Hospital at Kings Park, N. Y., April 11, 1918, by Governor Charles S. Whitman.
- WHITE, DR. GEORGE M., appointed Assistant Superintendent of Nebraska State Hospital at Ingleside.
- WHITTEN, DR. B. O., Resident Physician at State Park of State Hospital for the Insane at Columbia, S. C., resigned December 15, 1918.
- WILLIAMS, DR. GUY H., Assistant Physician at Columbus State Hospital at Columbus, Ohio, appointed Superintendent of Cleveland State Hospital at Cleveland, Ohio.
- WILLIAMS, DR. TOM A., has recently returned from France, where he had been acting as Medical Adviser to the Bureau of Medical Research of the American Red Cross.
- WISWALL, DR. EDWARD HASTINGS, formerly Assistant Physician at the Westborough State Hospital at Westborough, Mass., and recently Superintendent of Wellealey Sanitarium at Wellesley, Mass., died at his home, October 7, 1918, aged 57.
- WOLFF, DR. GEORGE BANEY, Assistant Physician at Sheppard and Enoch Pratt Hospital at Towson, Md., was shot and instantly killed by Dr. Noboru Ishida, December 21, 1918, aged 33.
- ZABRISKIE, LT. COL. E. G., Consulting Neuro-psychiatrist to the Savenay Hospital Centre, has been designated Senior Consultant in Neuro-psychiatry for the A. E. F.



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NOTE.—Abbreviations: [Rev] denotes a book review, [N] editorial note, [Obit] an obituary, [Abs] an abstract.

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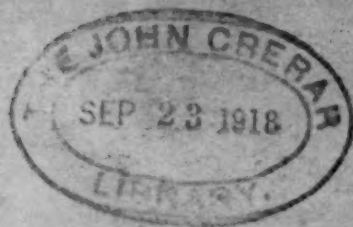
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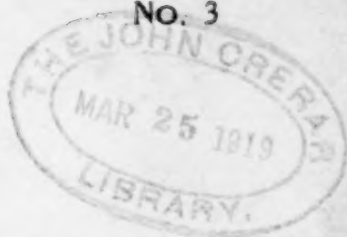
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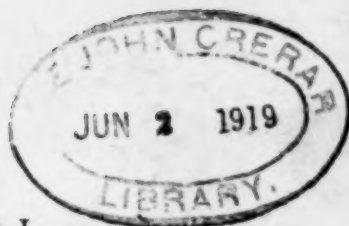
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